EAST CAROLINA UNIVERSITY

Facility Condition Assessment

Cardiovascular Building
Asset CARD

Inspected November 6, 2018

ISES CORPORATION

TABLE OF CONTENTS

FACILITY CONDITION ASSESSMENT

SECTION 1

ASSET OVERVIEW

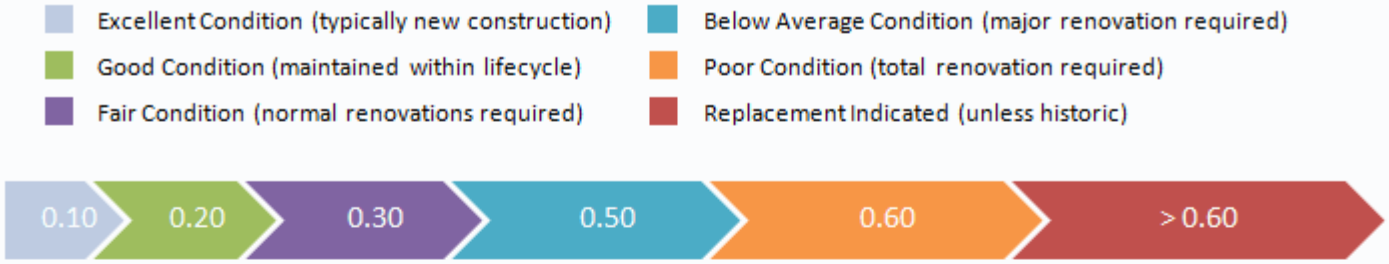
ASSET EXECUTIVE SUMMARY

All costs shown as Present Value

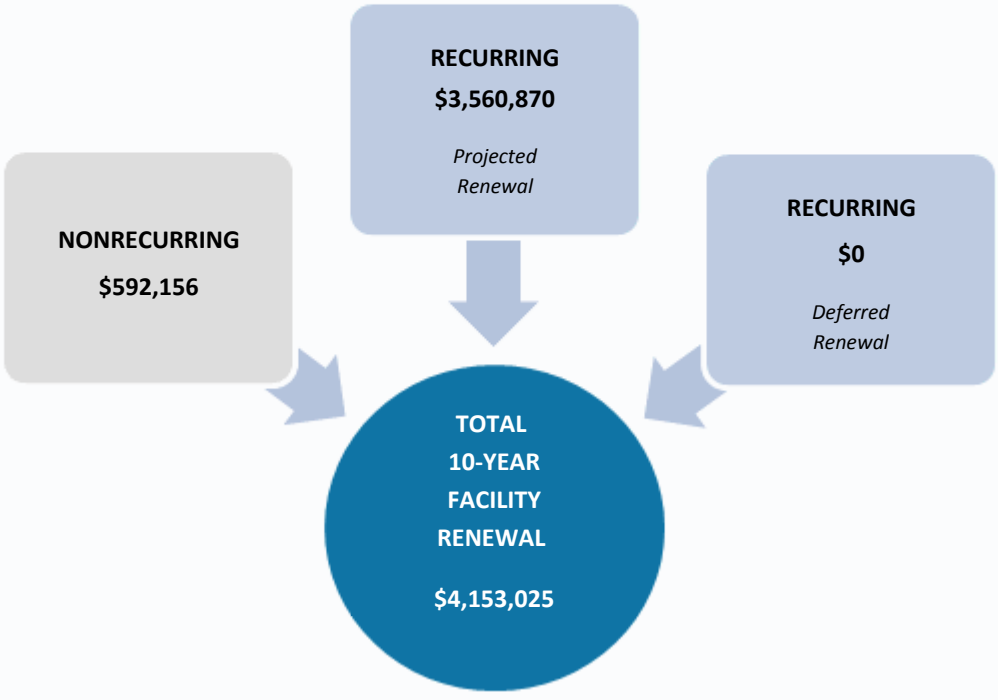
ASSET CODE	CARD		
ASSET NAME	CARDIOVASCULAR BUILDING	**CURRENT REPLACEMENT VALUE**	$100,611,000
ASSET USE	Medical / Clinic	**FACILITY CONDITION NEEDS INDEX**	0.04
YEAR BUILT	2009	**FACILITY CONDITION INDEX**	0.00
GSF	202,162	**10-YEAR $/SF**	20.54
INSPECTION DATE	11/06/2018		

FCNI Scale

The FCNI for this asset is **0.04**



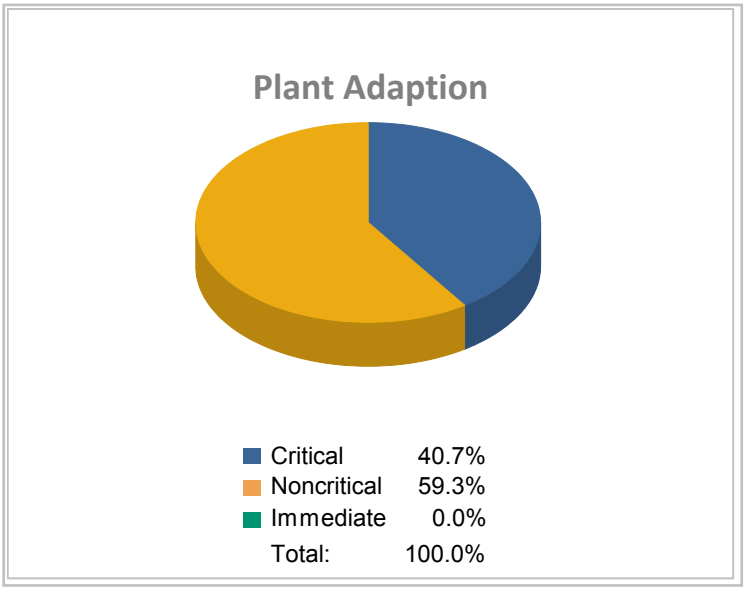
Total Facility Renewal Costs



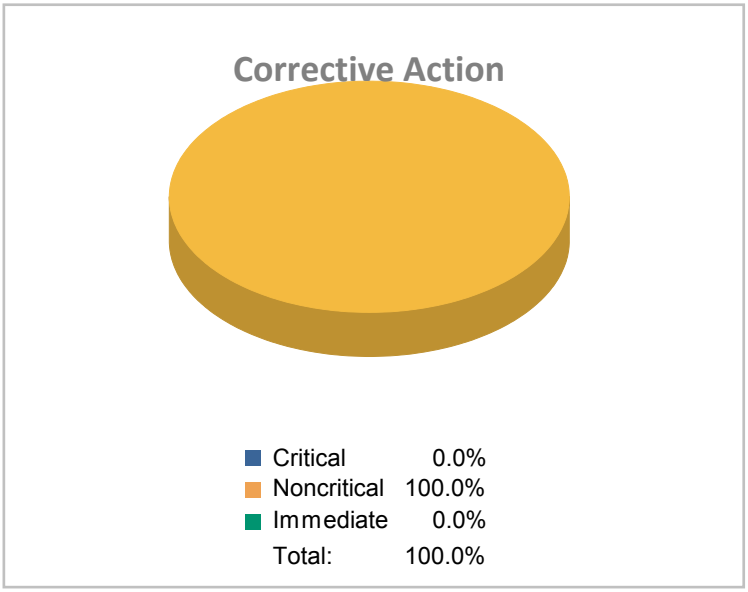
Nonrecurring Costs

Project Cost by Priority

PLANT ADAPTION	
1 - Immediate	**$0**
2 - Critical	**$25,134**
3 - Noncritical	**$36,685**

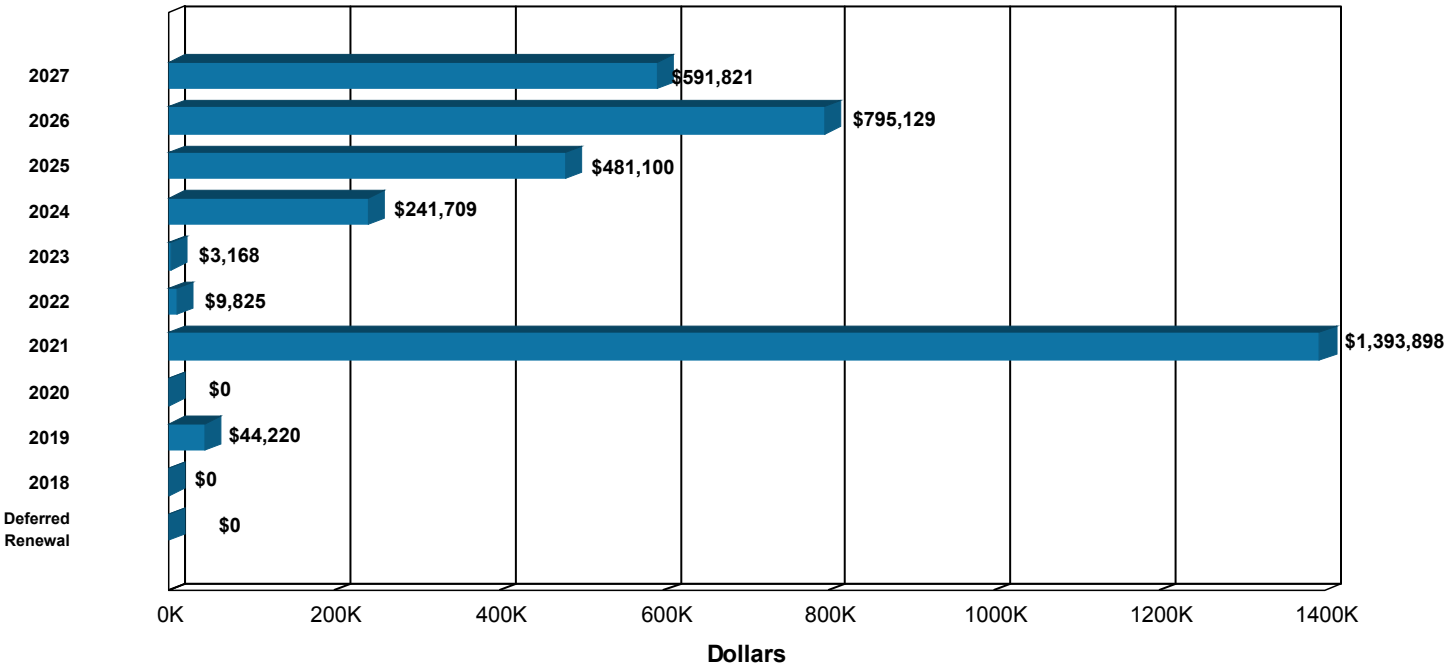


CORRECTIVE ACTION	
1 - Immediate	**$0**
2 - Critical	**$0**
3 - Noncritical	**$530,336**

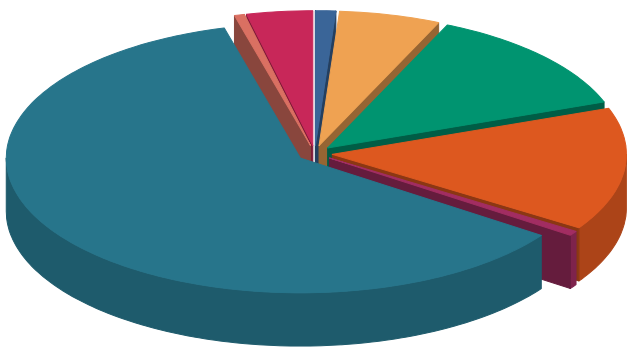


Recurring Costs

Component Replacement Cost by Year



Facilities Renewal Cost by System



Accessibility	$46,555	1%
Electrical	$231,024	6%
Exterior	$532,323	13%
Fire/Life Safety	$606,161	15%
Health	$25,648	1%
HVAC	$0	0%
Interiors	$2,540,163	61%
Plumbing	$21,740	1%
Site	$0	0%
Vert. Trans.	$149,411	4%
TOTAL	**$4,153,025**	

ASSET SUMMARY

The 202,162 gross square foot Cardiovascular Building is a reinforced concrete and steel frame structure with a brick masonry veneer and flat membrane and pitched metal roofs. This four-story building has a rectangular main section and a northeast wing connected at the first floor. The main entrance is on the south side, and there are additional entrances to the northwest and southeast. The auditorium prefunction area has numerous additional entrances and exits to the north courtyard, and there is a loading dock at the auditorium wing.

While the entire building shell was constructed in 2009, only the first three floors and a small area of the fourth floor were built-out at that time. Additional construction on the fourth floor was completed in 2013. The first three floors primarily contain clinic space, while the fourth floor is primarily medical labs. There are also administration and departmental offices, a large lecture hall/auditorium, teaching labs, exam rooms, and support areas, such as conference rooms, waiting areas, restrooms, a third floor exercise/workout room, penthouse mechanical/electrical area, and shipping and receiving area. The building is fully handicapped accessible.

The information for this report was gathered during an inspection conducted on November 6, 2018.

Site

The site is well maintained, and the landscaping is adequate and appropriate. Generally, the concrete sidewalks and curbs/gutters are in good condition. No site upgrades are deemed necessary at this time. The parking areas are not included in this assessment.

Exterior Structure

Even though the brick exterior is less than ten years old, several areas have experienced moisture infiltration, including around windows. Some areas, but not all, have been repaired, and it is anticipated that additional work will be necessary. A significant renovation of the masonry walls, including window seals and gaskets as necessary, is recommended to ensure the exterior envelope is waterproof.

The large, fixed, dual-pane windows are typically in good condition. Although they are not expected to require replacement, several have loose seals and moisture condensation between the panes. These should be repaired or replaced.

The building has a central white TPO single-ply membrane roof and a perimeter pitched blue/grey standing seam metal roof. Both are original and in good condition. While neither should require replacement within the next ten years, it should be expected that the membrane roof will need to be replaced shortly after the report scope.

Entrance doors are mostly aluminum-framed glass. There are also a few hollow metal service doors and an overhead roll-up commercial garage door at the loading dock area. All are in good working condition. Only the garage door operating hardware is expected to require replacement within the next ten years.

Interior Finishes/Systems

The interior finishes are mostly original and in good condition. The office suites, public waiting rooms, conference rooms, and administrative support areas typically have carpeting. While in good condition, the carpeting dating to 2009 will likely require replacement within the next ten years. The newer carpeting should outlast the scope of this report. Carpeting in higher traffic areas will always need more frequent replacement. Labs and exam rooms have 12-inch vinyl tile or sheet vinyl, and the main lobby and auditorium prefunction area have terrazzo flooring. Restrooms typically have ceramic tile on the floors and lower wall section. Some of the smaller single-occupant restrooms in the patient areas have vinyl floor tile. The original sheet vinyl has some areas with separating seams and should be replaced within the next ten years.

Most of the walls are painted sheetrock and the ceilings suspended acoustical tile. There are also some wallpapered and ceramic/stone-look tile walls and painted sheetrock ceilings. Some third and fourth floor areas have open ceilings to facilitate accessing the utilities outside the labs. Only the painted walls are expected to require finish renewals within the next ten years.

Doors are all properly rated, including the glazing, and have lever actuated hardware. Glazed partition walls are also properly fire and safety rated. The wood and metal casework in the labs, exam rooms, and other clinical support areas is in good condition and not expected to require significant upgrades the next ten years.

Accessibility

Accessible features in this building include handicapped parking in the south lot, restrooms for the staff, public, and patients on each floor, showers on the third and fourth floors, stairwell handrails and guardrails, elevators, lever door hardware, and Braille signage. However, the wide center aisle steps in the auditorium lack supportive handrails. It is recommended that metal handrails be installed. Also, replace the first and second floor single-level drinking fountains with dual-level units.

Health

Safety showers and eyewash stations are appropriately located where there are corrosive materials. These fixtures are in very good condition and should outlast the scope of this report. There are also two walk-in cold rooms (4210A and 4210B). One provides refrigeration, and the other is set for below zero temperatures. The refrigeration systems are near the end of their expected lifecycle and should be replaced.

Fire/Life Safety

Structural fire separations are maintained according to code requirements, and egress paths are adequate with regard to fire rating. There are no compromises involving doors, partitions, or stairs. Emergency lighting is provided by standard fixtures connected to the emergency power network. A few unitary emergency lights were also observed in the auditorium conference rooms. Edge-lit LED exit signs properly mark the egress paths. No upgrade of these systems is recommended. However, many of the auditorium aisle steps lack illumination. NFPA 101 requires that egress paths be illuminated at all times of occupancy. The installation of LED/fiber optic step lights is recommended in the auditorium.

This facility is protected by a central fire alarm system that mostly dates to 2009. The Simplex 4100U point addressable control panel is located in the east entrance vestibule, and devices include manual pull stations, heat/smoke detectors, and audible/visible alarms. Although the system is in good condition, 2009 portion is expected to require replacement within the next ten years.

There is also an automatic, comprehensive, wet-pipe sprinkler system. Tamper switches were observed on the fire standpipes, and control valves were in locked rooms. Also, two dry chemical fire suppression systems protect mezzanine elevator mechanical rooms P104 and P105. With proper testing and maintenance, these systems will outlast the scope of this report.

HVAC

High pressure steam and chilled water enter the facility via the pit in room 1418. The chilled water is distributed to the air handling units (AHUs) and fan coil units (FCU) by two 40 hp pumps. Pressure reducing valves (PRVs) in basement mechanical room 1418 and the mezzanine reduce the steam to medium pressure for process equipment and to low pressure for the HVAC system (including heat exchangers and humidification) and the domestic water heat exchanger. Three heat exchangers convert the steam into heating hot water. Two 25 hp pumps distribute the hot water to AHUs, FCUs, cabinet unit heaters (CUHs), and reheat coils. There are two condensate receivers in room 1418. Condensate from the spent steam is collected in a flash tank and the two condensate receivers and returned back to the campus central plant.

Four Buffalo air handlers distribute the conditioned air. AHU-1 and its return fan are in mechanical room 1418. The other three AHUs are located in the mezzanine. AHU-2 supplies 100 percent outside air to the labs, except for the air that is returned by the energy recovery unit (ERU). AHU-3 and AHU-4 are the largest units. Each is equipped with two 75 hp supply fans and two 25 hp return fans. All of the AHUs have steam injection humidification systems. In the past, these have created too much humidification and have even interfered with the smoke/heat detectors in the HVAC ductwork. Most times of the year, additional humidification is not wanted in the ECU climate, but certain areas of the building do have humidification requirements.

In 2013, an Air Zone International ERU was installed to work with AHU-2. The ERU is equipped with an energy recovery wheel that captures/releases energy in the exhaust air stream. Overall energy savings is realized by returning the conditioned air into the intake of AHU-2.

There are six cabinet unit heaters and 28 fan coil units. The CUHs provide heating only, while many of the FCUs provide both heating and cooling to select areas of the building. A 5 ton chiller at the northwest exterior provides additional cooling to the CT scan equipment. A 1.5 hp pump delivers the chilled water from the chiller to the CT equipment. Also, two Toshiba Carrier split DX systems provide additional cooling to small fourth floor electrical rooms. The condensing units are located in the mezzanine, while the evaporator units are in electrical rooms 4003 and 4129G.

Ventilation is provided by centrifugal roof exhausters, fume hood exhaust fans, and building exhaust fans. Many are located in the mezzanine. The fans range in size from fractional horsepower for the centrifugal roof exhausters to 10 hp for the utility fume hood exhaust fans. The fume hood exhaust fans serve the Labconco fume hoods and vented bio-safety cabinets on the fourth floor.

The HVAC distribution network includes piping for the steam, heating hot water, and chilled water, as well as ductwork. Both pneumatic and electric actuators were observed for the Johnson Controls Metasys HVAC control system. A Quincy air compressor with two 5 hp motors provides air for the pneumatic equipment. All of the HVAC equipment described above appears to be in good condition, and with routine maintenance, it is expected to provide reliable service beyond the next ten years.

Electrical

Power is fed via the 2,000 kVA, oil-filled transformer TX-19 located at the east exterior. Power enters the transformer at 15 kV and exits at 277/480 volt. This transformer is included in the campus infrastructure report. Power then enters main electrical room 1118 and is distributed by the 3,000 amp, 480 volt main Square D switchboard (MSB), which is original but should outlast the scope of this report.

The electrical distribution network is a dual-voltage configuration. A Square D motor control center in the northeast part of the mezzanine is a significant part of this system. The major equipment uses the 277/480 volts, and the 120/208 volt system is for receptacles and miscellaneous low voltage equipment. Electrical outlets in areas near water (restrooms, sinks) have GFCI protection. Secondary panels are Square D. No upgrade of this system should be necessary within the next ten years.

Emergency power is provided by the Utility Plant generator. In room 1419E are three GE Zenith automatic transfer switches and the 800 amp, 480 volt generator switchboard. These should outlast the scope of this report.

The interior is illuminated by pendent and lay-in fluorescent fixtures. Some of the corridors have wall-mounted sconces, and the auditorium has recessed can CFL lights. Modern occupancy sensors were observed throughout this facility. The interior lighting is expected to provide reliable service beyond the next ten years. The special light fixtures above the surgical tables were not included in this report.

Exterior areas are illuminated by original CFL wall-mounted, recessed ceiling, and recessed step fixtures. Modern LED wall-mounted, post, and stanchion lights were added later. The LED lighting should outlast the scope of this report, while the original fixtures should be scheduled for replacement in the next six to eight years. Install energy-efficient fixtures with photocell activation. Also, the loading dock steps are not illuminated. Install an LED fixture to provide a safe environment for building users.

ABB variable frequency drives (VFD) improve the efficiency and control of the AHU supply and return fans, ERU fans, larger exhaust fans, and pumps. The VFDs vary in age, and the expected service lives depend on VFD size. Each VFD should be scheduled for replacement over the next ten years as it approaches the end of its specific service life.

Plumbing

Potable water is distributed via copper piping, and sanitary waste and stormwater piping is cast-iron and plastic. The plastic piping provides acid resistance for the lab sink drains and vents. No major piping leaks were reported, and the plumbing fixtures are also in good condition. These systems should provide reliable service beyond the next ten years.

There are backflow preventers on the water mains, make-up water, and sprinkler systems. The 2009 vintage backflow preventers are approaching the end of their expected service life and should be scheduled for replacement. The 2013 backflow preventers should be scheduled for replacement in the next five to seven years.

The ThermaFlo domestic water heat exchanger in mechanical room 1418 uses low pressure steam to produce domestic hot water. An RO/DI water treatment system at the east side of the mezzanine provides treated water to the lab sinks. Also in this area are two vacuum and two air compressor systems that serve the labs. All four were manufactured by Powerex. A small sump pump is located in the pit in mechanical room 1418. All of this equipment should outlast the scope of this report.

Vertical Transportation

There are three Otis hydraulic passenger elevators and an Otis hydraulic service elevator. Capacities range from 3,000 to 4,500 pounds. The passenger elevators serve the first through fourth floors, and the service elevator also goes to the mezzanine. The elevators have ADA compliant controls and are in good condition. While the mechanical systems are expected to outlast the scope of this report, the passenger elevator cabs should be renovated in the next several years.

Note: The renewal needs outlined in this report were identified from the visual inspection and staff interviews. Our professional architectural and engineering inspectors thoroughly examined the accessible equipment and various building components to determine what repairs or modifications may be necessary to restore the systems and asset to an acceptable condition, or to a level defined by the Client. The estimated costs represent correction of existing deficiencies and anticipated lifecycle failures within a ten-year period. These recommendations are to bring the facility to modern standards without any anticipation of change to facility space layout or function. The total costs include variable project delivery costs as determined by the Owner. The costs developed do not represent the cost of a complete facility renovation. Soft costs not represented in this report include telecommunications, security, furniture, window treatment, space change, program issues, relocation, swing space, contingency, or costs that could not be identified or determined from the visual inspection and available building information.

INSPECTION TEAM DATA

Report Development

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Date of Inspection

November 6, 2018

Inspection Team Personnel

NAME	POSITION	SPECIALTY
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Carl Mason, PE, BSCP, M.ASCE	Senior Project Engineer	Interior Finishes, Exterior Structure, ADA Compliance, Site, Fire/Life Safety, Health

Client Contact

NAME	POSITION
Griffin L. Avin	Director of Facilities Services, Health Sciences Campus

DEFINITIONS

The following information is a clarification of the Facility Condition Assessment report using example definitions.

Overview

Recurring and Nonrecurring Facility Renewal Costs

Facility renewal costs are divided into two main categories – recurring and nonrecurring. Recurring costs are cyclical and consist primarily of major repairs to or replacement/rebuilding of facility systems and components (e.g., roof or HVAC system replacement at or past the end of its normal useful life). The tool for projecting the recurring renewal costs is the Asset Component Inventory, which is explained in detail below. Nonrecurring costs typically consist of modifications or repairs necessary to comply with fire/life safety or accessibility code requirements or to address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within. For these nonrecurring costs, projects have been developed and include estimated material and labor costs.

Facility Condition Needs Index (FCNI)

The FCNI provides a lifecycle cost comparison. It is a ratio of the sum of the recurring and nonrecurring renewal costs over ten years to the current replacement value of the asset. The current replacement value is based on replacement with current construction standards for the facility use type, and not original design parameters. This index gives the university a comparison within all buildings for identifying worst case/best case building conditions.

$$\text{FCNI} = \frac{\text{Nonrecurring Projects + 10-Year Recurring Component Renewal}}{\text{Current Replacement Value}}$$

Facility Condition Index (FCI)

The FCI is a ratio of the Deferred Renewal costs to the current replacement value.

$$\text{FCI} = \frac{\text{Deferred Renewal}}{\text{Current Replacement Value}}$$

Material and Labor Cost Factors and Additional Markups

The project costs are adjusted from the national averages to reflect conditions in Greenville using the R. S. Means City Cost Index for material and labor cost factors. The percentage adjustment of the national average is shown in the table below. Also included in the renewal costs are the construction markup (general contractor profit and overhead, construction management, permitting, accounting, site security, insurance, bonds, sales tax, institutional fees, site utilities, refuse fees, and insurance) and professional fees (architect or engineer design fees and in-house design costs).

GLOBAL MARKUP	%
Local Labor Index	71.3
Local Materials Index	100.7
Construction Markup	20.0
Professional Fees	16.0

Recurring Costs

Asset Component Inventory and Cost Projections

The Asset Component Inventory (starting on page 4.1.1) is based on industry standard lifecycle expectancies applied to an inventory of major building systems and major components within a facility. This is a list of all major systems and components within the facility. Each indicated component has the following associated information:

CATEGORY	DEFINITION
Uniformat Code	The standard Uniformat Code that applies to the component
Component Description	This line item describes the individual component
Identifier	Unique identifying information entered for a component as necessary
Quantity	The quantity of the listed component
Units	The unit of measure associated with the quantity
Unit Cost	The cost to replace each individual component unit (this cost is in today's dollars)
Complexity Adjustment	A factor utilized to adjust component replacement costs accordingly when it is anticipated that the actual cost will deviate from the average for that component
Total Cost	Unit cost multiplied by quantity, in today's dollars. Note that this is a one-time renewal/replacement cost
Install Date	Year that the component was or is estimated to have been installed. When this data is not available, it defaults to the year the asset was constructed
Life Expectancy	Average life expectancy for each individual component
Life Expectancy Adjustment	Utilized to adjust the first lifecycle of the component and to express when the next replacement should occur

The component listing forms the basis of the Component Renewal Cost by Year report, which provides a year-by-year list of projected recurring renewal costs over the next ten years. Each individual component is assigned a replacement year based on lifecycles, and the costs for each item are in future year dollars. For items that are already past the end of their lifecycle, the replacement year is shown as Deferred Renewal.

For a longer term perspective, the Recurring Component Expenditure Projections Graph presents recurring renewal cost projections over a 50-year period (starting from the date the report is run) based on each individual item's renewal cost and life span. Some components might require renewal several times within the 50-year model, while others might not occur at all. The vertical bars on the graph represent the accumulated total costs for each individual year. The average annual cost per gross square foot ($/GSF) is shown at the bottom of the graph. In this calculation, costs are not escalated. This figure can be utilized to assess the adequacy of existing capital renewal and repair budgets.

Recurring Cost Classifications

- Deferred Renewal
  Recurring repairs, generated by the Asset Component Inventory, that are past due for completion and have not yet been accomplished as part of normal maintenance or capital repair efforts. Further deferral could impair the proper functioning of the facility. Deferred Renewal upgrades should include compliance with applicable codes, even if such compliance requires expenditures beyond those essential to effect the needed repairs.

- Projected Renewal
  Recurring renewal efforts, generated by the Asset Component Inventory, that will be due within the scope of the assessment. These are regular or normal facility maintenance, repair, or renovation efforts that should be planned in the near future.

Nonrecurring Costs

As previously mentioned, modifications or repairs necessary to comply with fire/life safety or accessibility code requirements and those that address isolated, nonrecurring deficiencies that could negatively affect the structure of the facility or the systems and components within are not included in the Asset Component Inventory. For each such deficiency identified during the facility inspection, a project with an estimated cost to rectify said deficiency is recommended. These projects each have a unique identifier and are categorized by system type, priority, and classification, which are defined below. The costs in these projects are also indexed to local conditions and markups applied as the situation dictates.

Project Number

Each project has a unique number consisting of three elements, the asset identification number, system code, and a sequential number assigned by the FCA software. For example, the third fire/life safety project identified for asset 0001 would have a project number of 0001FS03 (0001 for the asset number, FS for fire/life safety, and 03 being the next sequential number for a fire/life safety project).

Project Classifications

- Plant Adaption
  Nonrecurring expenditures, stored in the Projects module, required to adapt the physical plant to the evolving needs of the institution and to changing codes or standards. These are expenditures beyond normal maintenance. Examples include compliance with changing codes (e.g., accessibility), facility alterations required by changing teaching or research methods, and improvements occasioned by the adoption of modern technology (e.g., the use of personal computer networks).

- Corrective Action
  Nonrecurring expenditures, stored in the Projects module, for repairs needed to correct random and unpredictable deficiencies. Such projects are not related to aligning a building with codes or standards. Deficiencies classified as Corrective Action could have an effect on building aesthetics, safety, or usability.

Priority Classes

Recurring renewal needs do not receive individual prioritization, as the entire data set of needs in this category is year-based. Each separate component has a distinct need year, rendering further prioritization unnecessary. Each nonrecurring renewal project, however, has a priority assigned to indicate the criticality of the recommended work. The prioritization utilized for this subset of the data is as follows.

- Immediate

  Projects in this category require immediate action to:

  a. correct a cited safety hazard
  b. stop accelerated deterioration
  c. and/or return a facility to normal operation

- Critical

  Projects in this category include actions that must be addressed in the short-term:

  a. repairs to prevent further deterioration
  b. improvements to facilities associated with critical accessibility needs
  c. potential safety hazards

- Noncritical

  Projects in this category include:

  a. improvements to facilities associated with noncritical accessibility needs
  b. actions to bring a facility into compliance with current building codes as grandfather clauses expire
  c. actions to improve the usability of a facility following an occupancy or use change

Category Codes

CATEGORY CODE*	SYSTEM DESCRIPTION
AC1A – AC4B	ACCESSIBILITY
EL1A – EL8A	ELECTRICAL
ES1A – ES6E	EXTERIOR STRUCTURE
FS1A – FS6A	FIRE/LIFE SAFETY
HE1A – HE7A	HEALTH
HV1A – HV8B	HVAC
IS1A – IS6D	INTERIOR FINISHES/SYSTEMS
PL1A – PL5A	PLUMBING
SI1A – SI4A	SITE
SS1A – SS7A	SECURITY SYSTEMS
VT1A – VT7A	VERTICAL TRANSPORTATION

Example: **Category Code = EL5A**	
EL	System Description
5	Component Description
A	Element Description

Priority Sequence

A Priority Sequence number is automatically assigned to each project to rank the projects in order of relative criticality and show the recommended execution order. This number is calculated based on the Priority Class and identified system of each project.

Example:			
Priority Class	**Category Code**	**Project Number**	**Priority Sequence**
1	HV2C	0001HV04	01
1	PL1D	0001PL02	02
2	IS1E	0001IS06	03
2	EL4C	0001EL03	04

Drawings/Project Locations

The drawings for this facility are marked with icons (see legend on plans) denoting the specific location(s) for each project. Within each icon are the last four characters of the respective project number (e.g., 0001IS01 is marked on the plan as IS01).

Photographs

A code shown on the Photo Log identifies the asset number, photo sequence, and a letter designation for architect (a) or engineer (e).

Example: **Photo Number: 0001006e**	
0001	Asset Number
006	Photo Sequence
e	Engineering Photo

CATEGORY CODE REPORT

ACCESSIBILITY

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
AC1A	Site	Stair and Railings	Includes exterior stairs and railings which are not part of the building entrance points.
AC1B	Site	Ramps and Walks	Includes sidewalks, grade change ramps (except for a building entrance), curb ramps, etc.
AC1C	Site	Parking	Designated parking spaces, including striping, signage, access aisles and ramps, etc.
AC1D	Site	Tactile Warnings	Raised tactile warnings located at traffic crossing and elevation changes.
AC2A	Building Entry	General	Covers all aspects of entry into the building itself, including ramps, lifts, doors and hardware, power operators, etc.
AC3A	Interior Path of Travel	Lifts/Ramps/ Elevators	Interior lifts, ramps and elevators designed to accommodate level changes inside a building. Includes both installation and retrofitting.
AC3B	Interior Path of Travel	Stairs and Railings	Upgrades to interior stairs and handrails for accessibility reasons.
AC3C	Interior Path of Travel	Doors and Hardware	Accessibility upgrades to the interior doors including widening, replacing hardware power, assisted operators, etc.
AC3D	Interior Path of Travel	Signage	Interior building signage upgrades for compliance with the ADA.
AC3E	Interior Path of Travel	Restrooms/ Bathrooms	Modifications to and installation of accessible public restrooms and bathrooms. Bathrooms that are an integral part of residential suites are catalogued under HC4A.
AC3F	Interior Path of Travel	Drinking Fountains	Upgrading/replacing drinking fountains for reasons of accessibility.
AC3G	Interior Path of Travel	Phones	Replacement/modification of public access telephones.
AC4A	General	Functional Space Modifications	This category covers all necessary interior modifications necessary to make the services and functions of a building accessible. It includes installation of assistive listening systems, modification of living quarters, modifications to laboratory workstations, etc. Bathrooms that are integral to efficiency suites are catalogued here.
AC4B	General	Other	All accessibility issues not catalogued elsewhere.

ELECTRICAL

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
EL1A	Incoming Service	Transformer	Main building service transformer.
EL1B	Incoming Service	Disconnects	Main building disconnect and switchgear.
EL1C	Incoming Service	Feeders	Incoming service feeders. Complete incoming service upgrades, including transformers, feeders, and main distribution panels are catalogued here.
EL1D	Incoming Service	Metering	Installation of meters to record consumption and/or demand.
EL2A	Main Distribution Panels	Condition Upgrade	Main distribution upgrade due to deficiencies in condition.
EL2B	Main Distribution Panels	Capacity Upgrade	Main distribution upgrades due to inadequate capacity.
EL3A	Secondary Distribution	Step-Down Transformers	Secondary distribution step-down and isolation transformers.
EL3B	Secondary Distribution	Distribution Network	Includes conduit, conductors, sub-distribution panels, switches, outlets, etc. Complete interior rewiring of a facility is catalogued here.

EL3C	Secondary Distribution	Motor Controllers	Mechanical equipment motor starters and control centers.
EL4A	Devices and Fixtures	Exterior Lighting	Exterior building lighting fixtures, including supply conductors and conduit.
EL4B	Devices and Fixtures	Interior Lighting	Interior lighting fixtures (also system wide emergency lighting), including supply conductors and conduits.
EL4C	Devices and Fixtures	Lighting Controllers	Motion sensors, photocell controllers, lighting contactors, etc.
EL4D	Devices and Fixtures	GFCI Protection	Ground fault protection, including GFCI receptacles and breakers.
EL4E	Devices and Fixtures	Lightning Protection	Lightning arrestation systems including air terminals and grounding conductors.
EL5A	Emergency Power System	Generation/ Distribution	Includes generators, central battery banks, transfer switches, emergency power grid, etc.
EL6A	Systems	UPS/DC Power Supply	Uninterruptible power supply systems and DC motor-generator sets and distribution systems.
EL7A	Infrastructure	Above Ground Transmission	Includes poles, towers, conductors, insulators, fuses, disconnects, etc.
EL7B	Infrastructure	Underground Transmission	Includes direct buried feeders, duct banks, conduit, manholes, feeders, switches, disconnects, etc.
EL7C	Infrastructure	Substations	Includes incoming feeders, breakers, buses, switchgear, meters, CTs, PTs, battery systems, capacitor banks, and all associated auxiliary equipment.
EL7D	Infrastructure	Distribution Switchgear	Stand-alone sectionalizing switches, distribution switchboards, etc.
EL7F	Infrastructure	Area and Street Lighting	Area and street lighting systems, including stanchions, fixtures, feeders, etc.
EL8A	General	Other	Electrical system components not catalogued elsewhere.

EXTERIOR STRUCTURE

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
ES1A	Foundation/ Footing	Structure	Structural foundation improvements involving structural work on foundation wall/footing, piers, caissons, and piles, including crack repairs, shoring, and pointing
ES1B	Foundation/ Footing	Dampproofing/ Dewatering	Foundation/footing waterproofing work, including, damp-proofing, dewatering, insulation, etc.
ES2A	Columns/Beams/ Walls	Structure	Structural work to primary load-bearing structural components aside from floors, including columns, beams, bearing walls, lintels, arches, etc.
ES2B	Columns/Beams/ Walls	Finish	Work involving restoration of the appearance and weatherproof integrity of exterior wall/structural envelope components, including masonry/pointing, expansion joints, efflorescence and stain removal, grouting, surfacing, chimney repairs, etc.
ES3A	Floor	Structure	Work concerning the structural integrity of the load supporting floors, both exposed and unexposed, including deformation, delamination, spalling, shoring, crack repair, etc.
ES4A	Roof	Repair	Work on waterproof horizontal finish (roof) involving repair and/or limited replacement (<40% total), including membrane patching, flashing repair, coping caulk/resetting, PPT wall parging/coating, walk pad installation, skylight and roof hatch R&R, etc.
ES4B	Roof	Replacement	Work involving total refurbishment of roofing system, including related component rehab.
ES5A	Fenestrations	Doors	Work on exterior exit/access door, including storefronts, airlocks, air curtains, vinyl slat doors, all power/manual operating hardware (except handicapped), etc.
ES5B	Fenestrations	Windows	Work on exterior fenestration closure and related components, including glass/metal/wood curtain walls, fixed or operable window sashes, glazing, frames, sills, casings, stools, seats, coatings, treatments, screens, storm windows, etc.

ES6A	General	Attached Structure	Work on attached exterior structure components not normally considered in above categories, including porches, stoops, decks, monumental entrance stairs, cupolas, tower, etc.
ES6B	General	Areaways	Work on attached grade level or below structural features, including subterranean lightwells, areaways, basement access stairs, etc.
ES6C	General	Trim	Work on ornamental exterior (generally nonstructural) elements, including beltlines, quoins, porticos, soffits, cornices, moldings, trim, etc.
ES6D	General	Superstructure	Finish and structural work on nonstandard structures with exposed load-bearing elements, such as stadiums, bag houses, bleachers, freestanding towers, etc.
ES6E	General	Other	Any exterior work not specifically categorized elsewhere, including finish and structural work on freestanding boiler stacks.

FIRE/LIFE SAFETY

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
FS1A	Lighting	Egress Lighting/Exit Signage	R&R work on exit signage and packaged AC/DC emergency lighting.
FS2A	Detection/Alarm	General	Repair or replacement of fire alarm/detection system/components, including alarms, pull boxes, smoke/heat detectors, annunciator panels, central fire control stations, remote dialers, fire station communications, etc.
FS3A	Suppression	Sprinklers	Repair or installation of water sprinkler type automatic fire suppressions, including wet-pipe and dry-pipe systems, heads, piping, deflectors, valves, monitors, associated fire pump, etc.
FS3B	Suppression	Standpipe/Hose	Repair or installation of standpipe system or components, including hardware, hoses, cabinets, nozzles, necessary fire pumping system, etc.
FS3C	Suppression	Extinguishers	Repairs or upgrades to F.E. cabinets/wall fastenings and handheld extinguisher testing/replacement.
FS3D	Suppression	Other	Other fire suppression items not specifically categorized elsewhere, including fire blankets, carbon dioxide automatic systems, Halon systems, dry chemical systems, etc.
FS4A	Hazardous Materials	Storage Environment	Installation or repair of special storage environment for the safe holding of flammable or otherwise dangerous materials/supplies, including vented flammables storage cabinets, holding pens/rooms, cages, fire safe chemical storage rooms, etc.
FS4B	Hazardous Materials	User Safety	Improvements, repairs, installation, or testing of user safety equipment, including emergency eyewashes, safety showers, emergency panic/shut-down system, etc.
FS5A	Egress Path	Designation	Installation, relocation or repair of posted diagrammatic emergency evacuation routes.
FS5B	Egress Path	Distance/ Geometry	Work involving remediation of egress routing problems, including elimination of dead end corridors, excessive egress distance modifications, and egress routing inadequacies.
FS5C	Egress Path	Separation Rating	Restoration of required fire protective barriers, including wall rating compromises, fire-rated construction, structural fire proofing, wind/safety glazing, transom retrofitting, etc.
FS5D	Egress Path	Obstruction	Clearance of items restricting the required egress routes.
FS5E	Egress Path	Stairs Railing	Retrofit of stair/landing configurations/structure, railing heights/geometries, etc.
FS5F	Egress Path	Fire Doors/ Hardware	Installation/replacement/repair of fire doors and hardware, including labeled fire doors, fire shutters, closers, magnetic holders, panic hardware, etc.
FS5G	Egress Path	Finish/Furniture Ratings	Remediation of improper fire/smoke ratings of finishes and furniture along egress routes.
FS6A	General	Other	Life/fire safety items not specifically categorized elsewhere.

HEALTH

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
HE1A	Environmental Control	Equipment and Enclosures	Temperature control chambers (both hot and cold) for non-food storage. Includes both chamber and all associated mechanical equipment.
HE1B	Environmental Control	Other	General environmental control problems not catalogued elsewhere.
HE2A	Pest Control	General	Includes all measures necessary to control and destroy insects, rodents, and other pests.
HE3A	Refuse	General	Issues related to the collection, handling, and disposal of refuse.
HE4A	Sanitation Equipment	Laboratory and Process	Includes autoclaves, cage washers, steam cleaners, etc.
HE5A	Food Service	Kitchen Equipment	Includes ranges, grilles, cookers, sculleries, etc.
HE5B	Food Service	Cold Storage	Includes the cold storage room and all associated refrigeration equipment.
HE6A	Hazardous Material	Structural Asbestos	Testing, abatement, and disposal of structural and building finish materials containing asbestos.
HE6B	Hazardous Material	Mechanical Asbestos	Testing, abatement, and disposal of mechanical insulation materials containing asbestos.
HE6C	Hazardous Material	PCBs	Includes testing, demolition, disposal, and cleanup of PCB contaminated substances.
HE6D	Hazardous Material	Fuel Storage	Includes monitoring, removal, and replacement of above and below ground fuel storage and distribution systems. Also includes testing and disposal of contaminated soils.
HE6E	Hazardous Material	Lead Paint	Testing, removal, and disposal of lead-based paint systems.
HE6F	Hazardous Material	Other	Handling, storage, and disposal of other hazardous materials.
HE7A	General	Other	Health related issues not catalogued elsewhere.

HVAC

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
HV1A	Heating	Boilers/Stacks/ Controls	Boilers for heating purposes, including their related stacks, flues, and controls.
HV1B	Heating	Radiators/ Convectors	Including cast-iron radiators, fin tube radiators, baseboard radiators, etc.
HV1C	Heating	Furnace	Furnaces and their related controls, flues, etc.
HV1D	Heating	Fuel Supply/Storage	Storage and/or distribution of fuel for heating purposes, including tanks and piping networks and related leak detection/monitoring.
HV2A	Cooling	Chillers/ Controls	Chiller units for production of chilled water for cooling purposes, related controls (not including mods for CFC compliance).
HV2B	Cooling	Heat Rejection	Repair/replacement of cooling towers, dry coolers, air-cooling, and heat rejection. Includes connection of once-through system to cooling tower.
HV3A	Heating/Cooling	System Retrofit/ Replace	Replacement or major retrofit of HVAC systems.
HV3B	Heating/Cooling	Water Treatment	Treatment of hot water, chilled water, steam, condenser water, etc.
HV3C	Heating/Cooling	Package/Self-Contained Units	Repair/replacement of self-contained/package type units, including stand-up units, rooftop units, window units, etc.; both air conditioners and heat pumps.
HV3D	Heating/Cooling	Conventional Split Systems	Repair, installation, or replacement of conventional split systems, both air conditioners and heat pumps, including independent component replacements of compressors and condensers.

HV4A	Air Moving/ Ventilation	Air Handlers/ Fan Units	Includes air handlers and coils, fan coil units, unit ventilators, filtration upgrades, etc., not including package/self-contained units, split systems, or other specifically categorized systems.
HV4B	Air Moving/ Ventilation	Exhaust Fans	Exhaust fan systems, including fans, range and fume hoods, controls, and related ductwork.
HV4C	Air Moving/ Ventilation	Other Fans	Supply, return, or any other fans not incorporated into a component categorized elsewhere.
HV4D	Air Moving/ Ventilation	Air Distribution Network	Repair, replacement, or cleaning of air distribution network, including ductwork, terminal reheat/cool, VAV units, induction units, power induction units, insulation, dampers, linkages, etc.
HV5A	Steam/Hydronic Distribution	Piping Network	Repair/replacement of piping networks for heating and cooling systems, including pipe, fittings, insulation, related components, etc.
HV5B	Steam/Hydronic Distribution	Pumps	Repair or replacement of pumps used in heating and cooling systems, related control components, etc.
HV5C	Steam/Hydronic Distribution	Heat Exchangers	Including shell-and-tube heat exchangers and plate heat exchangers for heating and cooling.
HV6A	Controls	Complete System Upgrade	Replacement of HVAC control systems.
HV6B	Controls	Modifications/ Repairs	Repair or modification of HVAC control system.
HV6C	Controls	Air Compressors/ Dryers	Repair or modification of control air compressors and dryers.
HV7A	Infrastructure	Steam/Hot Water Generation	Generation of central steam and/or hot water, including boilers and related components.
HV7B	Infrastructure	Steam/Hot Water Distribution	Distribution system for central hot water and/or steam.
HV7C	Infrastructure	Chilled Water Generation	Generation of central chilled water, including chillers and related components.
HV7D	Infrastructure	Chilled Water Distribution	Distribution system for central chilled water.
HV7E	Infrastructure	Tunnels/ Manholes/ Trenches	Repairs, installation, or replacement of utility system access chambers.
HV7F	Infrastructure	Other	HVAC infrastructure issues not specifically categorized elsewhere.
HV8A	General	CFC Compliance	Chiller conversions/replacements for CFC regulatory compliance, monitoring, etc.
HV8B	General	Other	HVAC issues not catalogued elsewhere.

INTERIOR FINISHES/SYSTEMS

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
IS1A	Floor	Finishes-Dry	R&R of carpet, hardwood strip flooring, concrete coating, vinyl linoleum and tile, marble, terrazzo, rubber flooring, and underlayment in predominantly dry areas ("dry" includes non-commercial kitchens)
IS1B	Floor	Finishes-Wet	Flooring finish/underlayment work in predominantly "wet" areas, including work with linoleum, rubber, terrazzo, concrete coating, quarry tile, ceramic tile, epoxy aggregate, etc.
IS2A	Partitions	Structure	Structural work on full height permanent interior partitions, including wood/metal stud and drywall systems, CMU systems, structural brick, tile, glass block, etc.
IS2B	Partitions	Finishes	Work on full height permanent interior partitions, including R&R, to gypsum board, plaster, lath, wood paneling, acoustical panels, wall coverings, column coverings, tile, paint, etc.
IS3A	Ceilings	Repair	Repair of interior ceilings (<40% of total), including tiles, gypsum board, plaster, paint, etc.
IS3B	Ceilings	Replacement	Major refurbishments (>40% of total) to interior ceiling systems, including grid system replacements, structural framing, new suspended systems, paint, plastering, etc.

IS4A	Doors	General	Any work on interior non-fire-rated doors, roll-up counter doors, mechanical/plumbing access doors, and all door hardware (except for reasons of access improvement).
IS5A	Stairs	Finish	Any finish restorative work to stair tower walking surfaces, including replacement of rubber treads, safety grips, nosings, etc. (except as required to accommodate disabled persons).
IS6A	General	Molding	R&R to interior trim/molding systems, including rubber/vinyl/wood base, crown/chair/ornamental moldings, cased openings, etc.
IS6B	General	Cabinetry	R&R work to interior casework systems, including cabinets, countertops, wardrobes, lockers, mail boxes, built-in bookcases, lab/work benches, reagent shelving, etc. (except as required for access by the disabled).
IS6C	General	Screening	Work on temporary or partial height partitioning systems, including toilet partitions, urinal/vanity screens, etc.
IS6D	General	Other	Any work on interior elements not logically or specifically categorized elsewhere, including light coves, phone booths, interior lightwells, etc.

PLUMBING

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
PL1A	Domestic Water	Piping Network	Repair or replacement of domestic water supply piping network, insulation, hangers, etc.
PL1B	Domestic Water	Pumps	Domestic water booster pumps, circulating pumps, related controls, etc.
PL1C	Domestic Water	Storage/ Treatment	Equipment or vessels for storage or treatment of domestic water.
PL1D	Domestic Water	Metering	Installation, repair, or replacement of water meters.
PL1E	Domestic Water	Heating	Domestic water heaters, including gas, oil, and electric water heaters, shell-and-tube heat exchangers, tank type, and instantaneous.
PL1F	Domestic Water	Cooling	Central systems for cooling and distributing drinking water.
PL1G	Domestic Water	Fixtures	Plumbing fixtures, including sinks, drinking fountains, water closets, urinals, etc.
PL1H	Domestic Water	Conservation	Alternations made to the water distribution system to conserve water.
PL1I	Domestic Water	Backflow Protection	Backflow protection devices, including backflow preventers, vacuum breakers, etc.
PL2A	Wastewater	Piping Network	Repair or replacement of building wastewater piping network.
PL2B	Wastewater	Pumps	Pump systems used to lift wastewater, including sewage ejectors and other sump systems.
PL3A	Special Systems	Process Gas/Fluids	Generation and/or distribution of process steam, compressed air, natural and LP gas, process water, vacuum, etc.
PL4A	Infrastructure	Potable Water Storage/ Treatment	Storage and treatment of potable water for distribution.
PL4B	Infrastructure	Industrial Water Distribution/ Treatment	Storage and treatment of industrial water for distribution.
PL4C	Infrastructure	Sanitary Water Collection	Sanitary water collection systems and sanitary sewer systems, including combined systems.
PL4D	Infrastructure	Stormwater Collection	Stormwater collection systems and storm sewer systems; storm water only.
PL4E	Infrastructure	Potable Water Distribution	Potable water distribution network.
PL4F	Infrastructure	Wastewater Treatment	Wastewater treatment plants, associated equipment, etc.
PL5A	General	Other	Plumbing issues not categorized elsewhere.

SITE

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
SI1A	Access	Pedestrian	Paved pedestrian surfaces, including walks, site stairs, step ramps, paths, pedestrian signage, sidewalk bridges/canopies, pedestrian plaza/mall areas, etc.
SI1B	Access	Vehicular	Paved vehicular surfaces, including roads, paths, curbs, guards, bollards, bridges, skyways, joints, shoulder work, culverts, ditches, vehicular signage, etc.
SI2A	Landscape	Grade/Flora	Landscape related work, including new grass/turf refurbishment, grade improvements, catch basins, swales, berms, pruning, new ornamental flora, etc.
SI3A	Hardscape	Structure	Permanent hard site features, predominantly ornamental, including terraces, fences, statues, freestanding signage, fountains, benches, etc.
SI4A	General	Other	Other site work not specifically categorized elsewhere.

SECURITY SYSTEMS

CODE	COMPONENT DESCRIPTION	ELEMENT DESCRIPTION	DEFINITION
SS1A	Lighting	Exterior	Fixtures, stanchions, foliage interference, cleanliness, locations, etc.
SS2A	Site	Fencing	Perimeter campus fencing, individual building fencing, includes both pedestrian and vehicular control fences.
SS2B	Site	General	Hidden areas due to foliage, fencing, parking, walls, etc.
SS3A	Communications	Emergency Phones	Access, locations, visibility, function, reliability, etc.
SS4A	Access Control	Doors	Access, locks, keys, two-way speakers, reliability, redundancy, etc.
SS4B	Access Control	Windows	Locks, screens, access, reliability, etc.
SS4C	Access Control	Systems	Card key, proximity devices, data control, data use, reliability, system design, etc.
SS5A	Monitoring	Systems	Cameras, audio communication, monitoring stations, locations, system design, etc.
SS6A	Circulation	Pedestrian	On campus as well as to and from off-campus housing and class locations, etc.
SS6B	Circulation	Vehicular	Guard gates, access, systems, data control and use, identification, etc.
SS7A	General	Other	General information/projects pertaining to security issues.

VERTICAL TRANSPORTATION

CODE	Component Description	Element Description	DEFINITION
VT1A	Machine Room	General	Machine, worm gear, thrust bearing, brake, motors, sheaves, generator, controller, selector, governor, pump(s), valves, oil, access, lighting, ventilation, and floor.
VT2A	Car	General	Position indicator, lighting, floor, gate-doors, operation devices, safeties, safety shoe, light ray/detection, emergency light, fire fighter service, car top, door operator, stop switch, car frame, car guides, sheaves, phone, and ventilation.
VT3A	Hoistway	General	Enclosure, fascia, interlock, doors, hangers, closers, sheaves, rails, hoistway switches, ropes, traveling cables, selector tape, weights, and compensation.
VT4A	Hall Fixtures	General	Operating panel, position indicator, hall buttons, lobby panel, hall lanterns, fire fighter service, audible signals, and card/key access.
VT5A	Pit	General	Buffer(s), guards, sheaves, hydro packing, floor, lighting, and safety controls.
VT6A	Operating Conditions	General	Door open time, door close time, door thrust, acceleration, deceleration, leveling, dwell time, speed, OFR time, and nudging.
VT7A	General	Other	General information/projects relating to vertical transportation system components.

FACILITY CONDITION ASSESSMENT

SECTION 2

COST SUMMARIES AND TOTALS

RENEWAL COSTS MATRIX

All dollars shown as Present Value

CATEGORY	NONRECURRING PROJECT NEEDS			RECURRING COMPONENT REPLACEMENT NEEDS											
	Immediate	Critical	Noncritical	Deferred Renewal	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	TOTAL
ACCESSIBILITY	0	10,794	35,761	0	0	0	0	0	0	0	0	0	0	0	$46,555
EXTERIOR	0	0	530,336	0	0	0	0	0	0	0	1,987	0	0	0	$532,323
INTERIOR	0	0	0	0	0	0	0	1,233,543	0	0	219,681	308,396	778,543	0	$2,540,163
PLUMBING	0	0	0	0	0	18,572	0	0	0	3,168	0	0	0	0	$21,740
HVAC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$0
FIRE/LIFE SAFETY	0	14,340	0	0	0	0	0	0	0	0	0	0	0	591,821	$606,161
ELECTRICAL	0	0	924	0	0	0	0	10,944	9,825	0	20,041	172,704	16,586	0	$231,024
SITE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	$0
VERT. TRANS.	0	0	0	0	0	0	0	149,411	0	0	0	0	0	0	$149,411
HEALTH/EQUIP.	0	0	0	0	0	25,648	0	0	0	0	0	0	0	0	$25,648
SUBTOTAL	$0	$25,134	$567,021	$0	$0	$44,220	$0	$1,393,898	$9,825	$3,168	$241,709	$481,100	$795,129	$591,821	$4,153,025
TOTAL NONRECURRING PROJECT NEEDS			$592,156	TOTAL RECURRING COMPONENT REPLACEMENT NEEDS										$3,560,870	

CURRENT REPLACEMENT VALUE	$100,611,000
FACILITY CONDITION NEEDS INDEX	0.04
FACILITY CONDITION INDEX	0.00

GSF	TOTAL 10-YEAR FACILITY RENEWAL NEEDS	10-YEAR NEEDS/SF
202,162	$4,153,025	$20.54

RENEWAL NEEDS BY SYSTEM

All costs shown as Present Value

CATEGORY	NONRECURRING PROJECT COSTS	RECURRING COMPONENT REPLACEMENT COSTS	TOTAL 10-YEAR FACILITY RENEWAL COSTS
ACCESSIBILITY	$46,555	$0	$46,555
EXTERIOR	$530,336	$1,987	$532,323
INTERIOR	$0	$2,540,163	$2,540,163
PLUMBING	$0	$21,740	$21,740
HVAC	$0	$0	$0
FIRE/LIFE SAFETY	$14,340	$591,821	$606,161
ELECTRICAL	$924	$230,100	$231,024
SITE	$0	$0	$0
VERT. TRANS	$0	$149,411	$149,411
HEALTH	$0	$25,648	$25,648
TOTALS	**$592,156**	**$3,560,870**	**$4,153,025**

FACILITIES RENEWAL PLAN

NONRECURRING PROJECT COST

All costs shown as Present Value

PROJECT NUMBER	PROJECT TITLE	UNI-FORMAT	PRIORITY CLASS	PROJECT CLASSIFICATION	PROJECT COST
CARDAC02	AUDITORIUM ACCESSIBILITY UPGRADES	C1010	2	Plant Adaption	10,794
CARDFS01	INSTALL STEP LIGHTING	D5090	2	Plant Adaption	14,340
CARDES01	EXTERIOR MASONRY WALL RENEWAL	B2010	3	Corrective Action	494,557
CARDES02	REPLACE SELECT DEFICIENT WINDOWS	B2020	3	Corrective Action	35,779
CARDAC01	DRINKING FOUNTAIN ACCESSIBILITY UPGRADES	C1010	3	Plant Adaption	35,761
CARDEL01	ADD EXTERIOR LIGHTING	D5020	3	Plant Adaption	924
				TOTAL	**$592,156**

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE	COMPONENT	IDENTIFIER	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
CARD BF01	BACKFLOW PREVENTER (<=1 INCH)	SPRINKLER 1	D2020	2019	981
CARD BF01	BACKFLOW PREVENTER (<=1 INCH)	SPRINKLER 2	D2020	2019	981
CARD BF02	BACKFLOW PREVENTER (1-2 INCHES)	MAKE-UP WATER	D2020	2019	2,187
CARD BF03	BACKFLOW PREVENTER (2-3 INCHES)		D2020	2019	7,212
CARD BF03	BACKFLOW PREVENTER (2-3 INCHES)		D2020	2019	7,212
CARD CR03	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER		E1020	2019	12,824
CARD CR03	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER		E1020	2019	12,824
CARD IW01	WALL FINISH - PAINT, STANDARD	2009	C3010	2021	1,233,543
CARD VT04	ELEVATOR CAB RENOVATION - PASSENGER	2 - PASSENGER	D1010	2021	49,804
CARD VT04	ELEVATOR CAB RENOVATION - PASSENGER	3 - PASSENGER	D1010	2021	49,804
CARD VT04	ELEVATOR CAB RENOVATION - PASSENGER	4 - PASSENGER	D1010	2021	49,804
CARD VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-2-1	D5010	2021	1,965
CARD VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-2-2	D5010	2021	1,965
CARD VF05	VARIABLE FREQUENCY DRIVE (15-20 HP)	RF1	D5010	2021	7,014
CARD VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 2	D5010	2022	3,275
CARD VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-1-1	D5010	2022	3,275
CARD VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-1-2	D5010	2022	3,275
CARD BF01	BACKFLOW PREVENTER (<=1 INCH)	RO/DI WATER	D2020	2023	981
CARD BF02	BACKFLOW PREVENTER (1-2 INCHES)		D2020	2023	2,187
CARD DR30	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS		B2030	2024	1,987
CARD IF04	FLOORING - VINYL SHEET, STANDARD	2009	C3020	2024	219,681
CARD LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	STEP LIGHT CFL	D5020	2024	1,184
CARD LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED 4-PIN CFL	D5020	2024	9,077
CARD LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	CFL	D5020	2024	9,779
CARD IW01	WALL FINISH - PAINT, STANDARD	2013	C3010	2025	308,396
CARD VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 5	D5010	2025	3,275

FACILITIES RENEWAL PLAN

RECURRING COMPONENT REPLACEMENT COSTS

All costs shown as Present Value

ASSET CODE COMP CODE		COMPONENT	IDENTIFIER	UNI-FORMAT	REPLACEMENT YEAR	REPLACEMENT COST
CARD	VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	ERU-HW	D5010	2025	1,965
CARD	VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 1	D5010	2025	1,310
CARD	VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 3	D5010	2025	1,310
CARD	VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	EF 4	D5010	2025	4,954
CARD	VF05	VARIABLE FREQUENCY DRIVE (15-20 HP)	ERU-SF	D5010	2025	7,014
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	HWP2-1	D5010	2025	8,293
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	HWP2-2	D5010	2025	8,293
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF3-1	D5010	2025	8,293
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF3-2	D5010	2025	8,293
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF4-1	D5010	2025	8,293
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF4-2	D5010	2025	8,293
CARD	VF08	VARIABLE FREQUENCY DRIVE (30-40 HP)	CHWP1-1	D5010	2025	10,852
CARD	VF08	VARIABLE FREQUENCY DRIVE (30-40 HP)	CHWP1-2	D5010	2025	10,852
CARD	VF09	VARIABLE FREQUENCY DRIVE (40-50 HP)	SF1	D5010	2025	12,503
CARD	VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF3-1	D5010	2025	17,228
CARD	VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF3-2	D5010	2025	17,228
CARD	VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF4-1	D5010	2025	17,228
CARD	VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF4-2	D5010	2025	17,228
CARD	IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	2009	C3020	2026	778,543
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	SF2-1	D5010	2026	8,293
CARD	VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	SF2-2	D5010	2026	8,293
CARD	FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	MODEL 4100U	D4030	2027	35,391
CARD	FA02	FIRE ALARM SYSTEM - DEVICES	2009	D4030	2027	556,430
					TOTAL	**$3,560,870**

PROJECT LIST BY CLASSIFICATION

All costs shown as Present Value

CORRECTIVE ACTION				
PRI SEQ	PROJECT NUMBER	PROJECT TITLE	PRI CLS	TOTAL COST
4	CARDES01	EXTERIOR MASONRY WALL RENEWAL	3	$494,557
5	CARDES02	REPLACE SELECT DEFICIENT WINDOWS	3	$35,779
		TOTAL FOR CORRECTIVE ACTION		**$530,336**

PLANT ADAPTION				
PRI SEQ	PROJECT NUMBER	PROJECT TITLE	PRI CLS	TOTAL COST
1	CARDFS01	INSTALL STEP LIGHTING	2	$14,340
2	CARDAC02	AUDITORIUM ACCESSIBILITY UPGRADES	2	$10,794
3	CARDAC01	DRINKING FOUNTAIN ACCESSIBILITY UPGRADES	3	$35,761
6	CARDEL01	ADD EXTERIOR LIGHTING	3	$924
		TOTAL FOR PLANT ADAPTION		**$61,820**
		GRAND TOTAL:		**$592,156**

PROJECT LIST BY CATEGORY CODE

All costs shown as Present Value

PRI SEQ	PROJECT NUMBER	PRI CLS	PROJECT CLASSIFICATION	PROJECT TITLE	TOTAL COST
2	CARDAC02	2	Plant Adaption	AUDITORIUM ACCESSIBILITY UPGRADES	$10,794
3	CARDAC01	3	Plant Adaption	DRINKING FOUNTAIN ACCESSIBILITY UPGRADES	$35,761
				TOTAL FOR ACCESSIBILITY	**$46,555**
6	CARDEL01	3	Plant Adaption	ADD EXTERIOR LIGHTING	$924
				TOTAL FOR ELECTRICAL	**$924**
4	CARDES01	3	Corrective Action	EXTERIOR MASONRY WALL RENEWAL	$494,557
5	CARDES02	3	Corrective Action	REPLACE SELECT DEFICIENT WINDOWS	$35,779
				TOTAL FOR EXTERIOR	**$530,336**
1	CARDFS01	2	Plant Adaption	INSTALL STEP LIGHTING	$14,340
				TOTAL FOR FIRE/LIFE SAFETY	**$14,340**
				GRAND TOTAL:	**$592,156**

FACILITY CONDITION ASSESSMENT

SECTION 3

NONRECURRING PROJECT DETAILS

All costs shown as Present Value

INSTALL STEP LIGHTING

Project Number:	CARDFS01	**Category Code:** FS1A	
Priority Sequence:	1		
Priority Class:	Critical	**System:**	FIRE/LIFE SAFETY
Project Class:	Plant Adaption	**Component:**	LIGHTING
Date Basis:	12/18/2018	**Element:**	EGRESS LTG./EXIT SIGNAGE

Code Application:		Subclass/Savings:	Project Location:
NFPA	101-7.8	Not Applicable	Room Only: Floor(s) 1

Description

Many of the auditorium aisle steps lack illumination. NFPA 101 requires that egress paths be illuminated at all times of occupancy.
The installation of LED/fiber optic step lights is recommended in the auditorium.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Install LED and fiber optic step fixture	EA	12	$210	$2,520	$375	$4,500	$7,020
Install 12 volt DC wiring and control system	EA	6	$400	$2,400	$500	$3,000	$5,400
Base Material/Labor Costs				**$4,920**		**$7,500**	
Indexed Material/Labor Costs				**$4,954**		**$5,348**	**$10,302**
Construction Mark Up at 20.0%							**$2,060**
Original Construction Cost							**$12,362**
Date of Original Estimate: 12/18/2018						**Inflation**	**$0**
Current Year Construction Cost							**$12,362**
Professional Fees at 16.0%							**$1,978**
TOTAL PROJECT COST							**$14,340**

All costs shown as Present Value

AUDITORIUM ACCESSIBILITY UPGRADES

Project Number:	CARDAC02	**Category Code:**	AC3B
Priority Sequence:	2		
Priority Class:	Critical	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	11/6/2018	**Element:**	STAIRS AND RAILINGS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	505	Not Applicable	Room Only: Floor(s) 1

Description

The wide center aisle steps in the auditorium lack supportive handrails. It is recommended that metal handrails be installed.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Wall-mounted handrail system, painted	LF	80	$64.33	$5,146	$45.09	$3,607	$8,754
Base Material/Labor Costs				**$5,146**		**$3,607**	
Indexed Material/Labor Costs				**$5,182**		**$2,572**	**$7,754**
Construction Mark Up at 20.0%							**$1,551**
Original Construction Cost							**$9,305**
Date of Original Estimate: 11/6/2018						**Inflation**	**$0**
Current Year Construction Cost							**$9,305**
Professional Fees at 16.0%							**$1,489**
TOTAL PROJECT COST							**$10,794**

All costs shown as Present Value

DRINKING FOUNTAIN ACCESSIBILITY UPGRADES

Project Number:	CARDAC01	**Category Code:** AC3F	
Priority Sequence:	3		
Priority Class:	Noncritical	**System:**	ACCESSIBILITY
Project Class:	Plant Adaption	**Component:**	INTERIOR PATH OF TRAVEL
Date Basis:	11/6/2018	**Element:**	DRINKING FOUNTAINS

Code Application:		Subclass/Savings:	Project Location:
ADAAG	211, 602	Not Applicable	Item Only: Floor(s) 1,2

Description

The first and second floor single-level drinking fountains are a barrier to accessibility. They should be replaced with dual-level units.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Dual-level drinking fountain	EA	4	$1,549	$6,196	$476	$1,905	$8,101
Alcove construction for drinking fountain	EA	4	$1,117	$4,467	$4,767	$19,067	$23,534
Base Material/Labor Costs				**$10,663**		**$20,971**	
Indexed Material/Labor Costs				**$10,738**		**$14,952**	**$25,690**
Construction Mark Up at 20.0%							**$5,138**
Original Construction Cost							**$30,828**
Date of Original Estimate: 11/6/2018						**Inflation**	**$0**
Current Year Construction Cost							**$30,828**
Professional Fees at 16.0%							**$4,933**
TOTAL PROJECT COST							**$35,761**

All costs shown as Present Value

EXTERIOR MASONRY WALL RENEWAL

Project Number:	CARDES01
Priority Sequence:	4
Priority Class:	Noncritical
Project Class:	Corrective Action
Date Basis:	11/6/2018

Category Code: ES2B

System:	EXTERIOR
Component:	COLUMNS/BEAMS/WALLS
Element:	FINISH

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Building-wide: Floor(s) 1

Description

Even though the brick exterior is less than ten years old, several areas have experienced moisture infiltration, including around windows. Some areas, but not all, have been repaired, and it is anticipated that additional work will be necessary. A significant renovation of the masonry walls, including window seals and gaskets as necessary, is recommended to ensure the exterior envelope is waterproof.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Repair brick exterior wall, average bond	SF	10,000	$9.00	$90,000	$25.00	$250,000	$340,000
General exterior wall cleaning and pressure washing with light chemical	SF	50,000	$0.30	$15,000	$2.00	$100,000	$115,000
			Base Material/Labor Costs	**$105,000**		**$350,000**	
			Indexed Material/Labor Costs	**$105,735**		**$249,550**	**$355,285**
					Construction Mark Up at 20.0%		**$71,057**
					Original Construction Cost		**$426,342**
Date of Original Estimate:	11/6/2018				**Inflation**		**$0**
					Current Year Construction Cost		**$426,342**
					Professional Fees at 16.0%		**$68,215**
					TOTAL PROJECT COST		**$494,557**

All costs shown as Present Value

REPLACE SELECT DEFICIENT WINDOWS

Project Number:	CARDES02	**Category Code:**	ES5B
Priority Sequence:	5		
Priority Class:	Noncritical	**System:**	EXTERIOR
Project Class:	Corrective Action	**Component:**	FENESTRATIONS
Date Basis:	12/19/2018	**Element:**	WINDOWS

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Building-wide: Floor(s) 1,2,3,4

Description

Several of the dual-pane windows have lost their vacuum seal and have moisture condensation between the panes. Replace the deficient windows.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
Replace select window systems	SF	250	$68.17	$17,043	$47.92	$11,980	$29,023
Base Material/Labor Costs				**$17,043**		**$11,980**	
Indexed Material/Labor Costs				**$17,162**		**$8,542**	**$25,704**
Construction Mark Up at 20.0%							**$5,141**
Original Construction Cost							**$30,844**
Date of Original Estimate: 12/19/2018						**Inflation**	**$0**
Current Year Construction Cost							**$30,844**
Professional Fees at 16.0%							**$4,935**
TOTAL PROJECT COST							**$35,779**

All costs shown as Present Value

ADD EXTERIOR LIGHTING

Project Number:	CARDEL01	**Category Code:** EL4A	
Priority Sequence:	6		
Priority Class:	Noncritical	**System:**	ELECTRICAL
Project Class:	Plant Adaption	**Component:**	DEVICES AND FIXTURES
Date Basis:	12/18/2018	**Element:**	EXTERIOR LIGHTING

Code Application:	Subclass/Savings:	Project Location:
Not Applicable	Not Applicable	Area Wide: Floor(s) 1

Description

The loading dock steps are not illuminated. Install an LED fixture with photocell activation in this area to provide a safe environment for building users.

All costs shown as Present Value

Project Cost Estimate

Task Description	Unit	Qnty	Material Unit Cost	Total Material Cost	Labor Unit Cost	Total Labor Cost	Total Cost
LED wall-mount fixture	EA	1	$397	$397	$371	$371	$767
Base Material/Labor Costs				**$397**		**$371**	
Indexed Material/Labor Costs				**$400**		**$264**	**$664**
Construction Mark Up at 20.0%							**$133**
Original Construction Cost							**$797**
Date of Original Estimate: 12/18/2018						**Inflation**	**$0**
Current Year Construction Cost							**$797**
Professional Fees at 16.0%							**$127**
TOTAL PROJECT COST							**$924**

FACILITY CONDITION ASSESSMENT

SECTION 4

LIFECYCLE COMPONENT INVENTORY

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
EW01	WALL, EXTERIOR, MASONRY POINTING				50,000	SF	1.27	$456,041	2009	30		2039
EW02	WALL, EXTERIOR, STUCCO OR CONCRETE RESTORE	UNFINISHED CONCRETE			2,700	SF	1.27	$30,951	2009	30		2039
WN01	GLASS, WINDOW, ALUMINUM OR WOOD, STANDARD				13,200	SF	1.27	$2,399,310	2009	40		2049
DR05	DOOR AND FRAME, EXTERIOR, SWINGING, ALUMINUM AND GLASS				44	LEAF	1.00	$118,699	2009	25		2034
DR08	DOOR AND FRAME, EXTERIOR, SWINGING, HOLLOW METAL	SERVICE DOORS			9	LEAF	1.00	$17,090	2009	40		2049
DR19	DOOR, EXTERIOR, OVERHEAD ROLLING METAL, LOCK	LOADING DOCK			140	SF	1.00	$12,847	2009	30		2039
DR30	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS				1	EA	1.00	$1,987	2009	15		2024
RR03	ROOF - 1-PLY, ADHERED (EPDM, PIB, CSPE, PVC)	LOWER FLAT			20,000	SF	1.00	$126,106	2009	20		2029
RR03	ROOF - 1-PLY, ADHERED (EPDM, PIB, CSPE, PVC)	UPPER FLAT			16,000	SF	1.00	$100,885	2009	20		2029
RR10	ROOF - PANEL, ALUMINUM OR GALVANIZED, STANDING SEAM	UPPER PITCHED			29,000	SF	1.00	$535,575	2009	40		2049
DR01	DOOR AND FRAME, INTERIOR, NON-RATED	2009			375	LEAF	1.00	$758,984	2009	40		2049
DR01	DOOR AND FRAME, INTERIOR, NON-RATED	2013			100	LEAF	1.00	$202,396	2013	40		2053
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	2009			125	LEAF	1.00	$436,962	2009	40		2049
DR02	DOOR AND FRAME, INTERIOR, FIRE-RATED	2013			33	LEAF	1.00	$115,358	2013	40		2053
DR24	DOOR LOCK, COMMERCIAL-GRADE	2009			465	EA	1.00	$323,755	2009	20		2029

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
DR24	DOOR LOCK, COMMERCIAL-GRADE	2013			130	EA	1.00	$90,512	2013	20		2033
DR26	DOOR PANIC HARDWARE	2009			77	EA	1.00	$87,712	2009	20		2029
DR26	DOOR PANIC HARDWARE	2013			3	EA	1.00	$3,417	2013	20		2033
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	2013			200	LF	1.00	$100,844	2013	20		2033
CW01	CASEWORK - WOOD BASE AND WALL, TOP, STANDARD	2009			1,100	LF	1.00	$554,640	2009	20		2029
CW04	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	2013			9,600	SF	1.00	$1,346,734	2013	40		2053
CW04	CASEWORK - LABORATORY, INCLUDES REAGENT SHELF AND TOP	2009			510	SF	1.00	$71,545	2009	40		2049
IW01	WALL FINISH - PAINT, STANDARD	2009			589,500	SF	1.00	$1,233,543	2009	12		2021
IW01	WALL FINISH - PAINT, STANDARD	2013			147,380	SF	1.00	$308,396	2013	12		2025
IW03	WALL FINISH - TILE, CERAMIC / STONE, STANDARD	2009			26,610	SF	1.00	$954,805	2009	30		2039
IW03	WALL FINISH - TILE, CERAMIC / STONE, STANDARD	2013			4,090	SF	1.00	$146,755	2013	30		2043
IW04	WALL FINISH - TILE, CERAMIC / STONE, PREMIUM	2013			6,140	SF	1.00	$571,735	2013	40		2053
IW04	WALL FINISH - TILE, CERAMIC / STONE, PREMIUM	2009			4,090	SF	1.00	$380,846	2009	40		2049
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	2009			68,000	SF	1.00	$778,543	2009	12	5	2026
IF01	FLOORING - CARPET, TILE OR ROLL, STANDARD	2013			17,000	SF	1.00	$194,636	2013	12	5	2030

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	2009			25,600	SF	1.00	$153,399	2009	20		2029
IF03	FLOORING - VINYL COMPOSITION TILE, STANDARD	2013			6,400	SF	1.00	$38,350	2013	20		2033
IF04	FLOORING - VINYL SHEET, STANDARD	2009			22,000	SF	1.00	$219,681	2009	15		2024
IF04	FLOORING - VINYL SHEET, STANDARD	2013			8,000	SF	1.00	$79,884	2013	15		2028
IF05	FLOORING - VINYL RESILIENT, TILE OR ROLL	RUBBERIZED		STAIRWELLS	10,000	SF	1.00	$210,310	2009	20		2029
IF06	FLOORING - TILE, CERAMIC / STONE / QUARRY STANDARD	2009			3,500	SF	1.00	$104,066	2009	30		2039
IF07	FLOORING - TILE, CERAMIC / STONE / QUARRY PREMIUM	2013			3,500	SF	1.00	$227,187	2013	40		2053
IF09	FLOORING - TERRAZZO RESURFACE				8,000	SF	1.00	$76,124	2009	50		2059
IF13	FLOORING - LAMINATE PLANK, PREMIUM				2,000	SF	1.00	$20,852	2013	15		2028
IF17	FLOORING - ATHLETIC, RUBBER, TILE OR ROLL				1,000	SF	1.00	$27,802	2009	15	5	2029
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD				97,000	SF	1.00	$915,271	2009	30		2039
IC01	CEILING FINISH - SUSPENDED ACOUSTICAL TILE, STANDARD	2013			25,000	SF	1.00	$235,895	2013	30		2043
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	2009			26,000	SF	1.00	$54,406	2009	24		2033
IC04	CEILING FINISH - PAINTED OR STAINED, STANDARD	2013			6,500	SF	1.00	$13,601	2013	24		2037
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	1 - SERVICE			1	EA	1.00	$282,435	2009	25		2034

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	3 - PASSENGER			1	EA	1.00	$282,435	2009	25		2034
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	4 - PASSENGER			1	EA	1.00	$282,435	2009	25		2034
VT03	ELEVATOR MODERNIZATION - HYDRAULIC	2 - PASSENGER			1	EA	1.00	$282,435	2009	25		2034
VT04	ELEVATOR CAB RENOVATION - PASSENGER	2 - PASSENGER			1	EA	1.00	$49,804	2009	12		2021
VT04	ELEVATOR CAB RENOVATION - PASSENGER	4 - PASSENGER			1	EA	1.00	$49,804	2009	12		2021
VT04	ELEVATOR CAB RENOVATION - PASSENGER	3 - PASSENGER			1	EA	1.00	$49,804	2009	12		2021
FX01	PLUMBING FIXTURE - LAVATORY, COUNTER	2009			95	EA	1.00	$117,071	2009	35		2044
FX01	PLUMBING FIXTURE - LAVATORY, COUNTER	2013			24	EA	1.00	$29,576	2013	35		2048
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	2013			4	EA	1.00	$4,975	2013	35		2048
FX02	PLUMBING FIXTURE - LAVATORY, WALL HUNG	2009			55	EA	1.00	$68,407	2009	35		2044
FX04	PLUMBING FIXTURE - SINK, KITCHEN	2009			12	EA	1.00	$24,231	2009	35		2044
FX04	PLUMBING FIXTURE - SINK, KITCHEN	2013			2	EA	1.00	$4,038	2013	35		2048
FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	2013			12	EA	1.00	$20,113	2013	35		2048
FX06	PLUMBING FIXTURE - SINK, SERVICE/LAUNDRY/UTILITY	2009			12	EA	1.00	$20,113	2009	35		2044
FX08	PLUMBING FIXTURE - SHOWER VALVE AND HEAD	2009			4	EA	1.00	$6,450	2009	35		2044

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
FX08	PLUMBING FIXTURE - SHOWER VALVE AND HEAD	2013			2	EA	1.00	$3,225	2013	35		2048
FX10	PLUMBING FIXTURE - URINAL	2013			3	EA	1.00	$5,941	2013	35		2048
FX10	PLUMBING FIXTURE - URINAL	2009			12	EA	1.00	$23,763	2009	35		2044
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	2009			73	EA	1.00	$132,997	2009	35		2044
FX12	PLUMBING FIXTURE - WATER CLOSET, TANKLESS	2013			11	EA	1.00	$20,041	2013	35		2048
FX14	PLUMBING FIXTURE - EMERGENCY SHOWER	2013			4	EA	1.00	$5,643	2013	35		2048
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	2013			22	EA	1.00	$96,381	2013	35		2048
FX15	PLUMBING FIXTURE - EMERGENCY EYEWASH	2009			1	EA	1.00	$4,381	2009	35		2044
FX16	PLUMBING FIXTURE - EMERGENCY COMBINATION SHOWER/EYEWASH	2009			2	EA	1.00	$15,062	2009	35		2044
BF01	BACKFLOW PREVENTER (<=1 INCH)	RO/DI WATER			1	EA	1.00	$981	2013	10		2023
BF01	BACKFLOW PREVENTER (<=1 INCH)	SPRINKLER 1		NE EXT	1	EA	1.00	$981	2009	10		2019
BF01	BACKFLOW PREVENTER (<=1 INCH)	SPRINKLER 2		NE EXT	1	EA	1.00	$981	2009	10		2019
BF02	BACKFLOW PREVENTER (1-2 INCHES)			4005	1	EA	1.00	$2,187	2013	10		2023
BF02	BACKFLOW PREVENTER (1-2 INCHES)	MAKE-UP WATER		1418	1	EA	1.00	$2,187	2009	10		2019
BF03	BACKFLOW PREVENTER (2-3 INCHES)			1418	1	EA	1.00	$7,212	2009	10		2019

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
BF03	BACKFLOW PREVENTER (2-3 INCHES)			1418	1	EA	1.00	$7,212	2009	10		2019
PS11	SUPPLY PIPING SYSTEM - MEDICAL CLINIC	2009			156,862	SF	0.93	$1,050,569	2009	35		2044
PS11	SUPPLY PIPING SYSTEM - MEDICAL CLINIC	2013			45,300	SF	0.93	$303,393	2013	35		2048
WH26	WATER HEATER - SHELL & TUBE (<=45 GPM)	THERMAFLO		1418	24	GPM	1.00	$40,102	2009	30		2039
WT05	REVERSE OSMOSIS SYSTEM (<=5,000 GPD)			EAST MEZZ	5,000	GPD	1.00	$34,171	2013	20		2033
PD11	DRAIN PIPING SYSTEM - MEDICAL CLINIC	2009			156,862	SF	0.93	$1,586,787	2009	40		2049
PD11	DRAIN PIPING SYSTEM - MEDICAL CLINIC	2013			45,300	SF	0.93	$458,246	2013	40		2053
PP04	GREYWATER SUMP PUMP -SUBMERSIBLE PUMP (<0.5HP)			1418 PIT	1	EA	1.00	$635	2009	20		2029
PG01	AIR COMPRESSOR - MEDICAL/LABORATORY PCKG (=10 HP), WITH DRYER	AC-2			4	HP	1.00	$8,921	2013	20		2033
PG02	AIR COMPRESSOR - MEDICAL/LABORATORY PCKG (15-20 HP), WITH DRYER	AC-1			15	HP	1.00	$28,196	2013	20		2033
PG06	VACUUM PUMP - OIL RING SEAL (3-5 HP), WITH TRAP	VP-2 MEDVAC			5	HP	1.00	$31,408	2013	20		2033
PG07	VACUUM PUMP - OIL RING SEAL (5-10 HP), WITH TRAP	VP-1 LAB AIR			10	HP	1.00	$68,054	2013	20		2033
PG14	MEDICAL GAS CONTROL PANEL	2013		4212A	1	EA	1.00	$1,212	2013	20		2033
PG14	MEDICAL GAS CONTROL PANEL	2009			2	EA	1.00	$2,424	2009	20		2029
CH07	CHILLER - AIR COOLED PACKAGE (<=35 TONS)	CT SCAN CHILLER			5	TON	1.00	$15,235	2010	30		2040

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	SERVING 4003		NE MEZZ	1	TON	1.00	$2,005	2013	23		2036
HU01	CONDENSER - REFRIGERANT, AIR-COOLED (<=10 TON)	SERVING 4129G		WEST MEZZ	1	TON	1.00	$2,005	2013	23		2036
HU06	EVAPORATOR UNIT, NO HEAT (<=1.5 TON)	AC-4003			1	TON	1.00	$2,737	2013	20		2033
HU06	EVAPORATOR UNIT, NO HEAT (<=1.5 TON)	AC-4129G			1	TON	1.00	$2,737	2013	20		2033
AH01	AIR HANDLING UNIT - INDOOR (.5-1.25 HP)	CABINET HEATERS			6	HP	0.15	$7,580	2009	25		2034
AH01	AIR HANDLING UNIT - INDOOR (.5-1.25 HP)	FAN COIL UNITS			28	HP	0.30	$70,751	2009	25		2034
AH13	AIR HANDLING UNIT - INDOOR (45-63 HP)	AHU-1			50	HP	1.00	$223,729	2009	25		2034
AH13	AIR HANDLING UNIT - INDOOR (45-63 HP)	AHU-2			50	HP	1.00	$223,729	2009	25		2034
AH14	AIR HANDLING UNIT - INDOOR (63-88 HP)	ERU-1			75	HP	1.00	$297,784	2013	25		2038
AH15	AIR HANDLING UNIT - INDOOR (>88 HP)	AHU-3			150	HP	1.00	$662,629	2009	25		2034
AH15	AIR HANDLING UNIT - INDOOR (>88 HP)	AHU-4			150	HP	1.00	$662,629	2009	25		2034
AH32	ENTHALPY WHEEL, ENERGY RECOVERY, AIR TO AIR (20000-50000 CFM)	ERU 1			20,000	CFM	1.00	$48,099	2013	25		2038
AH45	HUMIDIFIER, STEAM INJECTION	AHU-1			1	EA	1.00	$11,952	2009	20		2029
AH45	HUMIDIFIER, STEAM INJECTION	AHU-2			2	EA	0.65	$15,537	2009	20		2029
AH45	HUMIDIFIER, STEAM INJECTION	AHU-3			2	EA	1.00	$23,903	2009	20		2029

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
AH45	HUMIDIFIER, STEAM INJECTION	AHU-4			2	EA	1.00	$23,903	2009	20		2029
FN06	FAN - AXIAL, RETURN, 1.5" SP (15-20 HP) 32,000 CFM	RF1			20	HP	1.00	$33,636	2009	20		2029
FN07	FAN - AXIAL, RETURN, 1.5" SP (>20 HP) 38,500 CFM	RF3-1			25	HP	1.00	$38,752	2009	20		2029
FN07	FAN - AXIAL, RETURN, 1.5" SP (>20 HP) 38,500 CFM	RF3-2			25	HP	1.00	$38,752	2009	20		2029
FN07	FAN - AXIAL, RETURN, 1.5" SP (>20 HP) 38,500 CFM	RF4-1			25	HP	1.00	$38,752	2009	20		2029
FN07	FAN - AXIAL, RETURN, 1.5" SP (>20 HP) 38,500 CFM	RF4-2			25	HP	1.00	$38,752	2009	20		2029
FN08	FAN - AXIAL, SUPPLY, 2.5" SP (<=3 HP) 3800 CFM	EF 1			2	HP	1.00	$6,730	2013	20		2033
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	REF-1 AUDITORIUM			1	EA	1.00	$3,384	2009	20		2029
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	REF-2 AUDITORIUM			1	EA	1.00	$3,384	2009	20		2029
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	REF-3 ELEV MECH RM			1	EA	1.00	$3,384	2009	20		2029
FN18	FAN - CENTRIFUGAL ROOF EXHAUST, 1/4" SP (10"-18" DIAMETER)	REF-4 ELEV MECH RM			1	EA	1.00	$3,384	2009	20		2029
FN32	FAN - UTILITY SET, 1/4" SP (.4-1.25 HP)	EF 6			1	HP	1.00	$5,231	2013	20		2033
FN33	FAN - UTILITY SET, 1/4" SP (1.25-4 HP)	EF-2-1			3	HP	1.00	$11,718	2009	20		2029
FN33	FAN - UTILITY SET, 1/4" SP (1.25-4 HP)	EF-2-2			3	HP	1.00	$11,718	2009	20		2029
FN33	FAN - UTILITY SET, 1/4" SP (1.25-4 HP)	EF 3			2	HP	1.00	$7,812	2013	20		2033

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	EF 4			10	HP	1.00	$21,297	2013	20		2033
FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	EF 5			5	HP	1.00	$10,648	2013	20		2033
FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	EF 2			5	HP	1.00	$10,648	2009	20		2029
FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	EF-1-1			5	HP	1.00	$10,648	2009	20		2029
FN34	FAN - UTILITY SET, 1/4" SP (4-12 HP)	EF-1-2			5	HP	1.00	$10,648	2009	20		2029
HD01	HOOD, FUME	3-FOOT SASH			6	LF	1.00	$13,303	2013	20		2033
HD01	HOOD, FUME	5-FOOT SASH			25	LF	1.00	$55,429	2013	20		2033
HD01	HOOD, FUME	VENTED BIO-SAFETY CABINET			12	LF	1.00	$26,606	2013	20		2033
HV11	HVAC DISTRIBUTION NETWORKS - MEDICAL CLINIC	2009			156,862	SF	0.93	$3,753,011	2009	40		2049
HV11	HVAC DISTRIBUTION NETWORKS - MEDICAL CLINIC	2013			45,300	SF	0.93	$1,083,828	2013	40		2053
HX05	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	CV 1			290	GPM	1.00	$39,871	2009	35		2044
HX05	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	CV 2			290	GPM	1.00	$39,871	2009	35		2044
HX05	HEAT EXCHANGER - SHELL & TUBE STEAM TO WATER (>85 GPM)	CV 3			290	GPM	1.00	$39,871	2009	35		2044
HX11	PRESSURE REDUCING VALVE, STEAM SYSTEM (3")			MEZZANINE	1	EA	1.00	$6,384	2013	20		2033
HX12	PRESSURE REDUCING VALVE, STEAM SYSTEM (4")			1418	1	EA	1.00	$9,185	2009	20		2029

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
PH01	PUMP - ELECTRIC (<=10 HP)	CT SCAN CHWP			2	HP	1.00	$3,077	2010	25		2035
PH04	PUMP - ELECTRIC (20 - 25 HP)	HWP2-1			25	HP	1.00	$20,119	2009	25		2034
PH04	PUMP - ELECTRIC (20 - 25 HP)	HWP2-2			25	HP	1.00	$20,119	2009	25		2034
PH06	PUMP - ELECTRIC (30 - 40 HP)	CHWP1-1			40	HP	1.00	$36,917	2009	25		2034
PH06	PUMP - ELECTRIC (30 - 40 HP)	CHWP1-2			40	HP	1.00	$36,917	2009	25		2034
PH14	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	CP 1			10	HP	1.00	$69,535	2009	20		2029
PH14	CONDENSATE RECEIVER, ELECTRIC, 2 PUMPS	CP 2			6	HP	1.00	$41,721	2009	20		2029
AC02	AIR COMPRESSOR SYSTEM - HVAC CONTROLS (6-10 TOTAL HP)	QUINCY		1418	10	HP	1.00	$18,715	2009	20		2029
BA11	HVAC CONTROLS SYSTEM - MEDICAL CLINIC	2009			156,862	SF	0.93	$652,409	2009	18	4	2031
BA11	HVAC CONTROLS SYSTEM - MEDICAL CLINIC	2013			45,300	SF	0.93	$188,408	2013	18		2031
FS01	FIRE SPRINKLER SYSTEM	2009			156,862	SF	0.93	$1,712,386	2009	80		2089
FS01	FIRE SPRINKLER SYSTEM	2013			45,300	SF	0.93	$494,518	2013	80		2093
EL01	EXIT SIGN - CENTRAL POWER	2009			112	EA	1.00	$36,011	2009	20		2029
EL01	EXIT SIGN - CENTRAL POWER	2013			34	EA	1.00	$10,932	2013	20		2033
EL04	EMERGENCY LIGHT - UNITARY WITH BATTERY BACK-UP	2009			6	EA	1.00	$3,349	2009	20		2029

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
FA01	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	MODEL 4100U		EAST ENTRY VEST	1	EA	1.00	$35,391	2009	15	3	2027
FA02	FIRE ALARM SYSTEM - DEVICES	2009			156,862	SF	0.93	$556,430	2009	18		2027
FA02	FIRE ALARM SYSTEM - DEVICES	2013			45,300	SF	0.93	$160,691	2013	18		2031
FS02	FM200 OR INERGEN FIRE SUPPRESSION	P105			1,200	CF	1.00	$6,826	2009	25		2034
FS02	FM200 OR INERGEN FIRE SUPPRESSION	P104			3,000	CF	1.00	$17,064	2009	25		2034
MC01	MOTOR CONTROL CENTER VERTICAL SECTION, 600V (<=400A) W/STARTERS	MCC RMA5		MEZZANINE	3	EA	0.35	$61,295	2009	25		2034
SE11	ELECTRICAL DISTRIBUTION NETWORK - MEDICAL CLINIC	2009			156,862	SF	0.93	$2,746,392	2009	40		2049
SE11	ELECTRICAL DISTRIBUTION NETWORK - MEDICAL CLINIC	2013			45,300	SF	0.93	$793,127	2013	40		2053
SG03	MAIN SWITCHBOARD W/BREAKERS (600-800 AMP)	GENERATOR SWITCHBOARD			800	AMP	1.00	$53,709	2009	20		2029
SG07	MAIN SWITCHBOARD W/BREAKERS (>2500 AMP)	MSB		1118	3,000	AMP	1.00	$238,537	2009	20		2029
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	ERU-HW			3	HP	1.00	$1,965	2013	12		2025
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 1			2	HP	1.00	$1,310	2013	12		2025
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 2			5	HP	1.00	$3,275	2010	12		2022
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-1-1			5	HP	1.00	$3,275	2010	12		2022
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-1-2			5	HP	1.00	$3,275	2010	12		2022

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-2-1			3	HP	1.00	$1,965	2009	12		2021
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-2-2			3	HP	1.00	$1,965	2009	12		2021
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 3			2	HP	1.00	$1,310	2013	12		2025
VF01	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 5			5	HP	1.00	$3,275	2013	12		2025
VF03	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	EF 4			10	HP	1.00	$4,954	2013	12		2025
VF05	VARIABLE FREQUENCY DRIVE (15-20 HP)	ERU-SF			20	HP	1.00	$7,014	2013	12		2025
VF05	VARIABLE FREQUENCY DRIVE (15-20 HP)	RF1			20	HP	1.00	$7,014	2009	12		2021
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	SF2-1			25	HP	1.00	$8,293	2010	16		2026
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	SF2-2			25	HP	1.00	$8,293	2010	16		2026
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	HWP2-1			25	HP	1.00	$8,293	2009	16		2025
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	HWP2-2			25	HP	1.00	$8,293	2009	16		2025
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF4-1			25	HP	1.00	$8,293	2009	16		2025
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF4-2			25	HP	1.00	$8,293	2009	16		2025
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF3-1			25	HP	1.00	$8,293	2009	16		2025
VF06	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF3-2			25	HP	1.00	$8,293	2009	16		2025

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
VF08	VARIABLE FREQUENCY DRIVE (30-40 HP)	ERU-EX			40	HP	1.00	$10,852	2013	16		2029
VF08	VARIABLE FREQUENCY DRIVE (30-40 HP)	CHWP1-1			40	HP	1.00	$10,852	2009	16		2025
VF08	VARIABLE FREQUENCY DRIVE (30-40 HP)	CHWP1-2			40	HP	1.00	$10,852	2009	16		2025
VF09	VARIABLE FREQUENCY DRIVE (40-50 HP)	SF1			50	HP	1.00	$12,503	2009	16		2025
VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF3-1			75	HP	1.00	$17,228	2009	16		2025
VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF3-2			75	HP	1.00	$17,228	2009	16		2025
VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF4-1			75	HP	1.00	$17,228	2009	16		2025
VF10	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF4-2			75	HP	1.00	$17,228	2009	16		2025
LE02	LIGHTING - EXTERIOR, POST LANTERN, (INC, CFL, LED) RES	POST LED			17	EA	1.00	$10,553	2013	15		2028
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED 4-PIN CFL			23	EA	1.80	$9,077	2009	15		2024
LE03	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	STEP LIGHT CFL			3	EA	1.80	$1,184	2009	15		2024
LE04	LIGHTING - EXTERIOR, STANCHION LUMINAIRE, 12-FOOT	LED, 15-FOOT			18	EA	1.00	$36,730	2013	15		2028
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	CFL			14	EA	1.80	$9,779	2009	15		2024
LE08	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	LED			1	EA	1.00	$388	2013	15		2028
LI11	LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC	2009			156,862	SF	1.13	$948,906	2009	20		2029

RENEWABLE COMPONENT INVENTORY

COMP CODE	COMPONENT DESCRIPTION	IDENTIFIER	CUSTOMER ID	LOCATION	QTY	UNITS	CPLX FACTR	TOTAL COST	INSTL DATE	USEFUL LIFE	USEFUL LIFE ADJ	REPL YEAR
LI11	LIGHTING SYSTEM, INTERIOR - MEDICAL CLINIC	2013			45,300	SF	0.93	$224,737	2013	20		2033
GN15	SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)	ATS-1A			175	AMP	1.00	$6,727	2009	25		2034
GN15	SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)	ATS-1B			300	AMP	1.00	$11,533	2009	25		2034
GN15	SWITCH - AUTO TRANSFER, 480 V (100-400 AMP)	ATS-2			200	AMP	1.00	$7,689	2009	25		2034
CR01	WALK-IN REFRIGERATOR OR FREEZER STRUCTURE			4210A	144	SF	1.18	$54,504	2009	35		2044
CR01	WALK-IN REFRIGERATOR OR FREEZER STRUCTURE			4210B	144	SF	1.18	$54,504	2009	35		2044
CR03	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER			4210A	1	EA	1.00	$12,824	2009	10		2019
CR03	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER			4210B	1	EA	1.00	$12,824	2009	10		2019
SF02	SEATING, FIXED, FOLDING, PREMIUM			1430	200	EA	1.00	$157,881	2009	60		2069
							Grand Total:	$37,824,781				

RECURRING COST BY YEAR

All costs shown as Future Value using a 3% average inflation rate

No Projected Component Replacement Cost for Asset No. CARD for DR

No Projected Component Replacement Cost for Asset No. CARD for 2018

2019						
UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR
E1020	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER		1	EA	$13,209	2019
E1020	REFRIGERATION SYSTEM - WALK-IN, 3 EVAP FANS, 10000 BTUH, CONDENSER		1	EA	$13,209	2019
D2020	BACKFLOW PREVENTER (1-2 INCHES)	MAKE-UP WATER	1	EA	$2,253	2019
D2020	BACKFLOW PREVENTER (2-3 INCHES)		1	EA	$7,428	2019
D2020	BACKFLOW PREVENTER (2-3 INCHES)		1	EA	$7,428	2019
D2020	BACKFLOW PREVENTER (<=1 INCH)	SPRINKLER 1	1	EA	$1,010	2019
D2020	BACKFLOW PREVENTER (<=1 INCH)	SPRINKLER 2	1	EA	$1,010	2019
	2019	**PROJECTED COMPONENT REPLACEMENT COST**			**$45,546**	

No Projected Component Replacement Cost for Asset No. CARD for 2020

RECURRING COST BY YEAR

All costs shown as Future Value using a 3% average inflation rate

2021						
UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR
C3010	WALL FINISH - PAINT, STANDARD	2009	589,500	SF	$1,347,926	2021
D5010	VARIABLE FREQUENCY DRIVE (15-20 HP)	RF1	20	HP	$7,664	2021
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-2-1	3	HP	$2,147	2021
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-2-2	3	HP	$2,147	2021
D1010	ELEVATOR CAB RENOVATION - PASSENGER	2 - PASSENGER	1	EA	$54,422	2021
D1010	ELEVATOR CAB RENOVATION - PASSENGER	3 - PASSENGER	1	EA	$54,422	2021
D1010	ELEVATOR CAB RENOVATION - PASSENGER	4 - PASSENGER	1	EA	$54,422	2021
	2021	**PROJECTED COMPONENT REPLACEMENT COST**			**$1,523,150**	

2022						
UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 2	5	HP	$3,686	2022
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-1-1	5	HP	$3,686	2022
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF-1-2	5	HP	$3,686	2022
	2022	**PROJECTED COMPONENT REPLACEMENT COST**			**$11,058**	

2023						
UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR

RECURRING COST BY YEAR

All costs shown as Future Value using a 3% average inflation rate

D2020	BACKFLOW PREVENTER (1-2 INCHES)		1	EA	$2,536	2023
D2020	BACKFLOW PREVENTER (<=1 INCH)	RO/DI WATER	1	EA	$1,137	2023
	2023	**PROJECTED COMPONENT REPLACEMENT COST**			**$3,673**	

2024

UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR
C3020	FLOORING - VINYL SHEET, STANDARD	2009	22,000	SF	$262,311	2024
B2030	DOOR OPERATOR, OVERHEAD DOOR, COMMERCIAL, PADS		1	EA	$2,372	2024
D5020	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	RECESSED 4-PIN CFL	23	EA	$10,839	2024
D5020	LIGHTING - EXTERIOR, RECESSED (INC, CFL, LED)	STEP LIGHT CFL	3	EA	$1,414	2024
D5020	LIGHTING - EXTERIOR, WALL LANTERN or FLOOD (INC, CFL, LED)	CFL	14	EA	$11,677	2024
	2024	**PROJECTED COMPONENT REPLACEMENT COST**			**$288,613**	

2025

UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR
C3010	WALL FINISH - PAINT, STANDARD	2013	147,380	SF	$379,288	2025
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	HWP2-1	25	HP	$10,200	2025
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	HWP2-2	25	HP	$10,200	2025
D5010	VARIABLE FREQUENCY DRIVE (30-40 HP)	CHWP1-1	40	HP	$13,347	2025
D5010	VARIABLE FREQUENCY DRIVE (30-40 HP)	CHWP1-2	40	HP	$13,347	2025
D5010	VARIABLE FREQUENCY DRIVE (40-50 HP)	SF1	50	HP	$15,377	2025

RECURRING COST BY YEAR

All costs shown as Future Value using a 3% average inflation rate

D5010	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF3-1	75	HP	$21,188	2025
D5010	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF3-2	75	HP	$21,188	2025
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF3-1	25	HP	$10,200	2025
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF3-2	25	HP	$10,200	2025
D5010	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF4-1	75	HP	$21,188	2025
D5010	VARIABLE FREQUENCY DRIVE (50-75 HP)	SF4-2	75	HP	$21,188	2025
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF4-1	25	HP	$10,200	2025
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	RF4-2	25	HP	$10,200	2025
D5010	VARIABLE FREQUENCY DRIVE (15-20 HP)	ERU-SF	20	HP	$8,626	2025
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	ERU-HW	3	HP	$2,417	2025
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 1	2	HP	$1,611	2025
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 3	2	HP	$1,611	2025
D5010	VARIABLE FREQUENCY DRIVE (7.5-10 HP)	EF 4	10	HP	$6,092	2025
D5010	VARIABLE FREQUENCY DRIVE (<=5 HP)	EF 5	5	HP	$4,028	2025
	2025	**PROJECTED COMPONENT REPLACEMENT COST**			**$591,693**	

2026

UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR
C3020	FLOORING - CARPET, TILE OR ROLL, STANDARD	2009	68,000	SF	$986,234	2026
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	SF2-1	25	HP	$10,506	2026
D5010	VARIABLE FREQUENCY DRIVE (20-25 HP)	SF2-2	25	HP	$10,506	2026

RECURRING COST BY YEAR

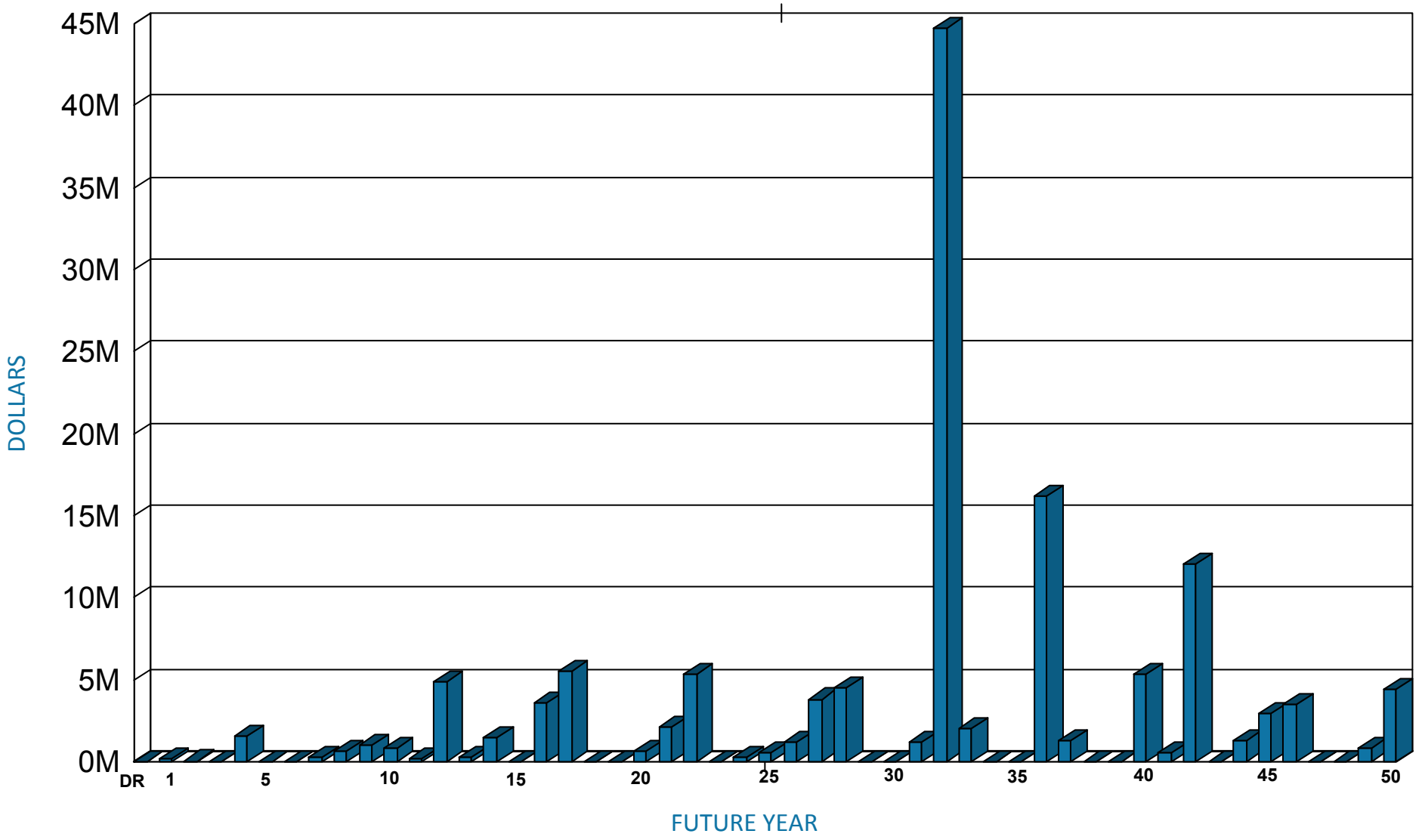
All costs shown as Future Value using a 3% average inflation rate

	2026	PROJECTED COMPONENT REPLACEMENT COST	$1,007,246	

2027

UNI-FORMAT	COMPONENT DESCRIPTION	IDENTIFIER	QTY	UNITS	REPLACEMENT COST	YEAR
D4030	FIRE ALARM PANEL, DIALER, BATTERY, & CHARGER	MODEL 4100U	1	EA	$46,177	2027
D4030	FIRE ALARM SYSTEM - DEVICES	2009	156,862	SF	$726,015	2027
	2027	PROJECTED COMPONENT REPLACEMENT COST			$772,192	

RECURRING COMPONENT EXPENDITURE PROJECTIONS



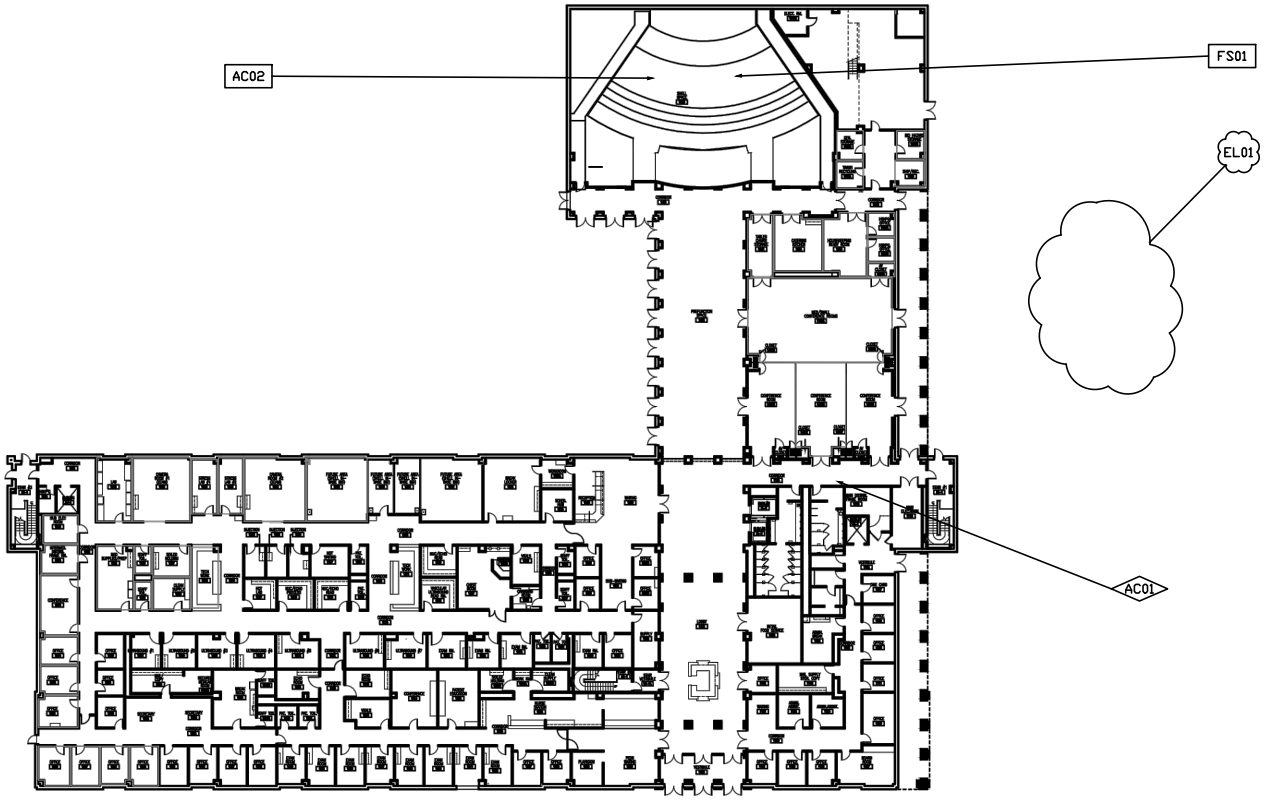
Average Annual Renewal Cost per SF $5.45

FACILITY CONDITION ASSESSMENT

SECTION 5

DRAWINGS/PROJECT LOCATIONS

EAST CAROLINA UNIVERSITY



ES01

CARDIOVASCULAR BUILDING

BLDG. NO CARD

ISES CORPORATION

FACILITY CONDITION ASSESSMENT

3100 Breckinridge Boulevard
Suite 400, Duluth GA 30096
770.879-7825

OVERALL

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

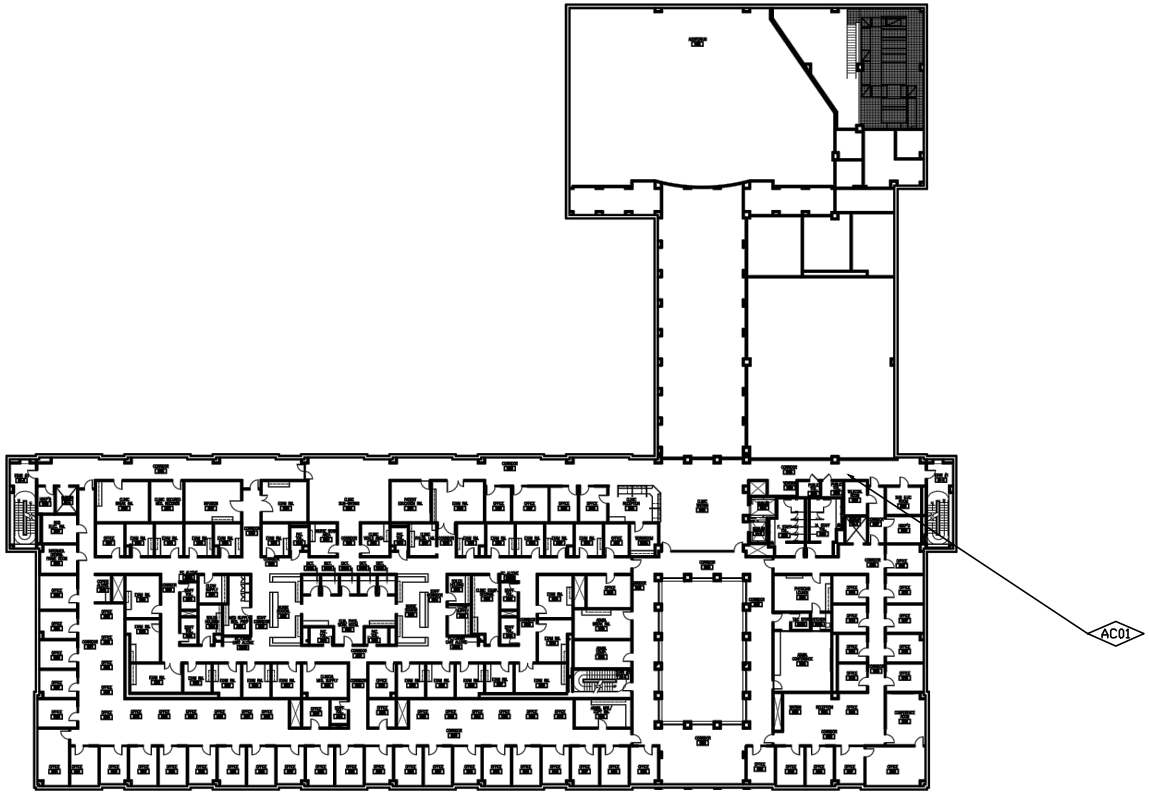
PROJECT NUMBER APPLIES TO AREA AS NOTED

Date: 12/19/2018
Drawn by: A.W.
Project No. 18-093

FIRST FLOOR PLAN

Sheet No.
1 of 4

EAST CAROLINA UNIVERSITY



CARDIOVASCULAR BUILDING

BLDG. NO CARD

CORPORATION

FACILITY CONDITION ASSESSMENT

3100 Breckinridge Boulevard
Suite 400, Duluth GA 30096
770.879-7825

OVERALL

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

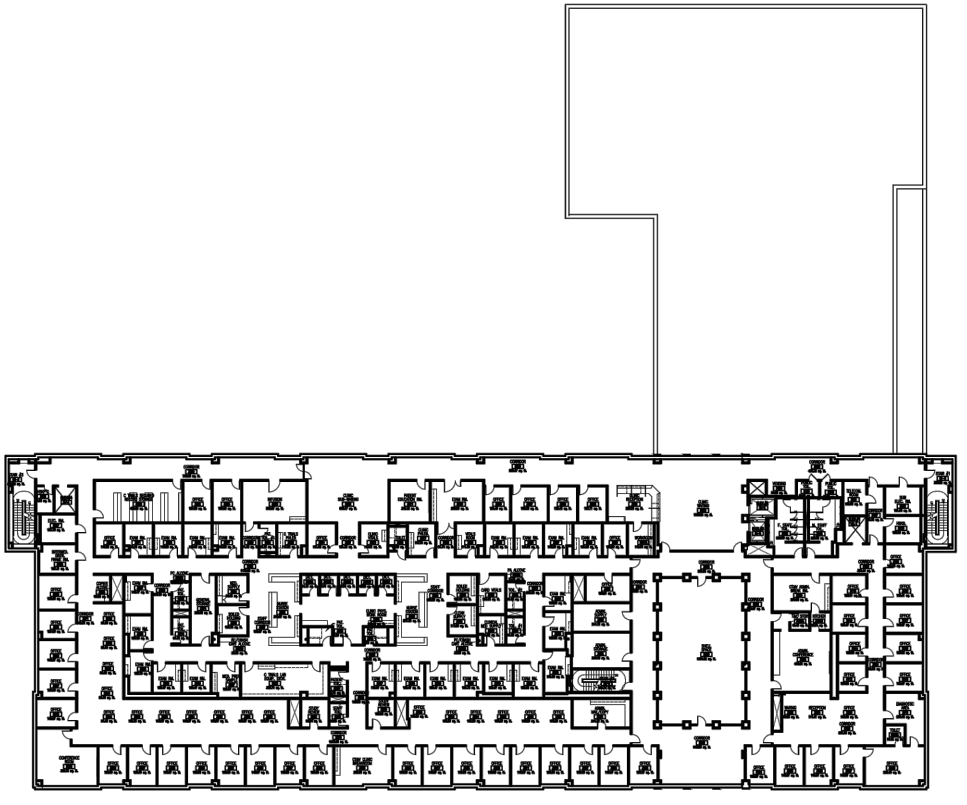
Date:	12/19/2018
Drawn by:	A.W.
Project No.	18-093

SECOND FLOOR PLAN

Sheet No.

2 of 4

EAST CAROLINA UNIVERSITY



CARDIOVASCULAR BUILDING

BLDG. NO CARD

CORPORATION

FACILITY CONDITION ASSESSMENT

3100 Breckinridge Boulevard
Suite 400, Duluth GA 30096
770.879-7825

OVERALL

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

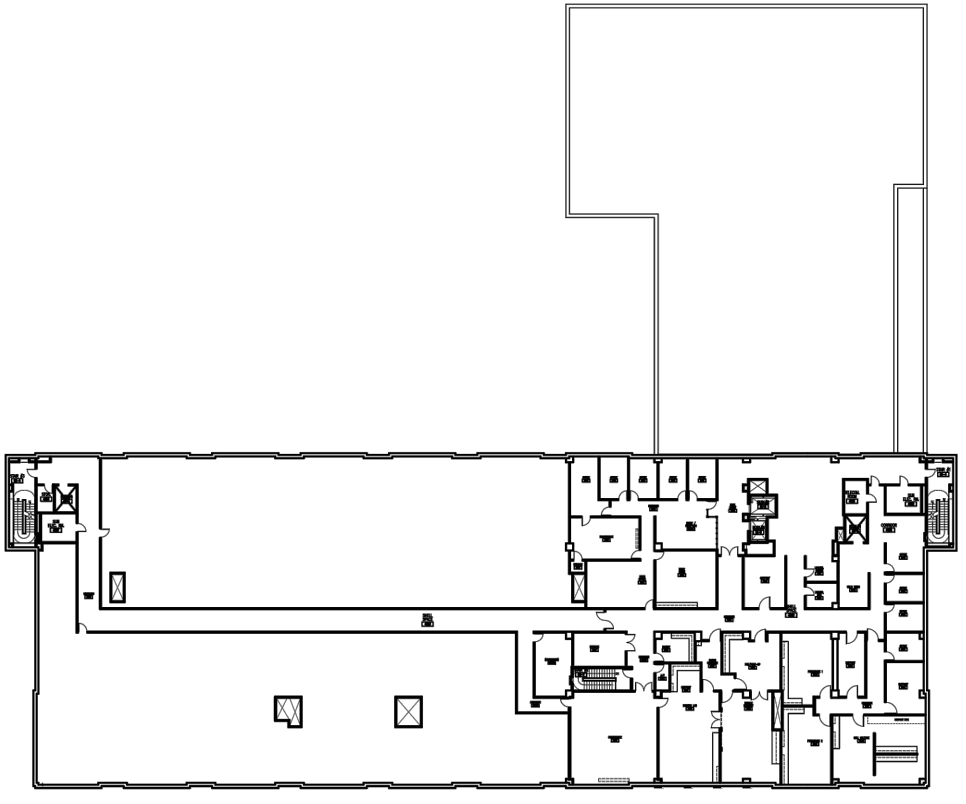
Date:	12/19/2018
Drawn by:	A.W.
Project No.	18-093

THIRD FLOOR PLAN

Sheet No.

3 of 4

EAST CAROLINA UNIVERSITY



CARDIOVASCULAR BUILDING

BLDG. NO CARD

CORPORATION

FACILITY CONDITION ASSESSMENT

3100 Breckinridge Boulevard
Suite 400, Duluth GA 30096
770.879-7825

OVERALL

PROJECT NUMBER APPLIES TO ONE ROOM ONLY

PROJECT NUMBER APPLIES TO ONE ITEM ONLY

PROJECT NUMBER APPLIES TO ENTIRE BUILDING

PROJECT NUMBER APPLIES TO ENTIRE FLOOR

PROJECT NUMBER APPLIES TO A SITUATION OF UNDEFINED EXTENTS

PROJECT NUMBER APPLIES TO AREA AS NOTED

Date:	12/19/2018
Drawn by:	A.W.
Project No.	18-093

FOURTH FLOOR PLAN

Sheet No.

4 of 4

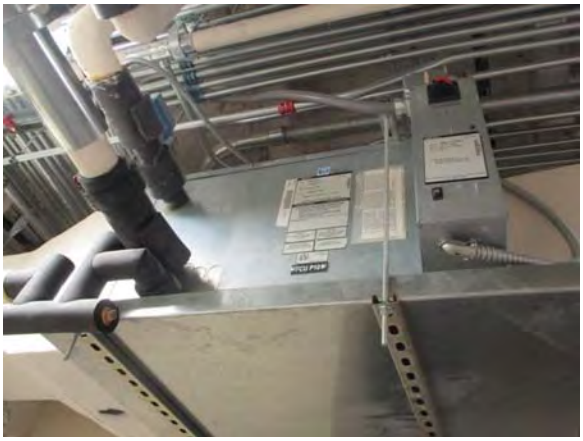
SECTION 6

PHOTOGRAPHS

CARD001a 11/6/2018

Original sealed concrete slab floor

Penthouse



CARD001e 11/6/2018

Fan coil unit P101 suspended from ceiling (serving room P101)

Northeast mezzanine

CARD002a 11/6/2018

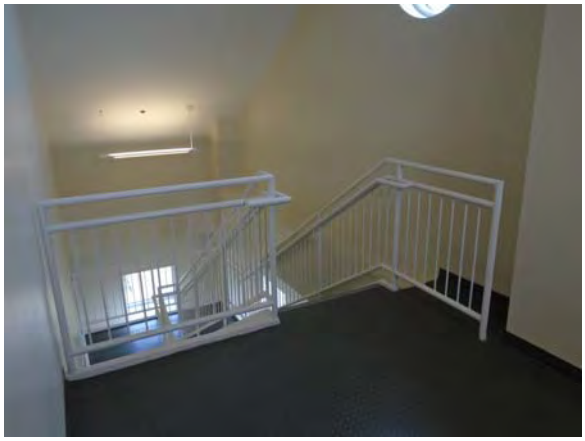
Wall insulation and sprayed-on fireproofing

Penthouse

CARD002e 11/6/2018

Insulated piping (chilled and heating hot water)

Northeast mezzanine



CARD003a 11/6/2018

Compliant handrail and guardrail and rubber treads and landings

Stairwell

CARD003e 11/6/2018

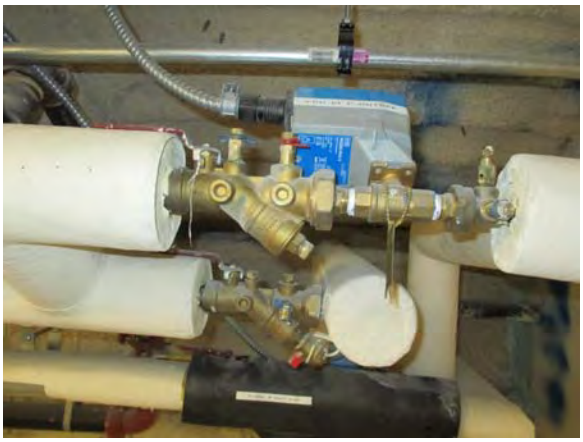
Sprinkler head

Northeast mezzanine

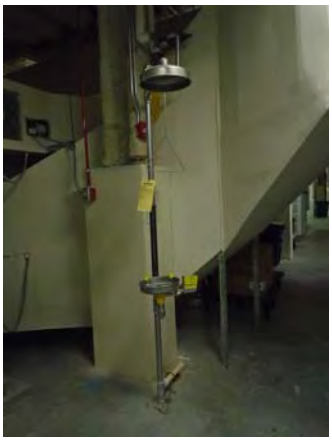
CARD004a 11/6/2018
Original sealed concrete slab floor
Penthouse

CARD004e 11/6/2018
Modern audible/visible fire alarm device
Northeast mezzanine

CARD005a 11/6/2018
Illuminated emergency exit sign
Penthouse



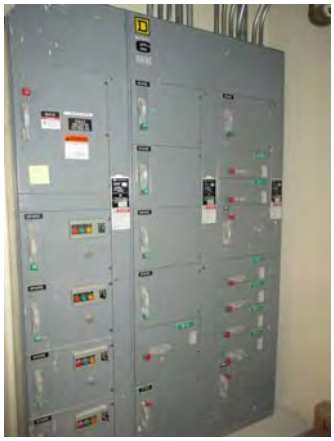
CARD005e 11/6/2018
Electric actuator on the heating hot water return
Northeast mezzanine



CARD006a 11/6/2018
Emergency eyewash station
Penthouse

CARD006e 11/6/2018
Edge-lit LED exit sign
Northeast mezzanine

CARD007a 11/6/2018
Original membrane roof
Lower northeast wing roof



CARD007e 11/6/2018
Square D motor control center
Northeast mezzanine

CARD008a 11/6/2018
Original membrane roof
Lower level covered walkway roof

CARD008e 11/6/2018
Toshiba split DX condensing unit adjacent to elevator door
Northeast mezzanine

CARD009a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Fourth floor corridor

CARD009e 11/6/2018
Square D secondary electrical panels and branch transformers
East mezzanine

CARD010a 11/6/2018

Vinyl tile floor

Fourth floor corridor

CARD010e 11/6/2018

Group of three ABB variable frequency drives

East mezzanine

CARD011a 11/6/2018

Custodial floor sink

Fourth floor

CARD011e 11/6/2018

Enclosure for Johnson Controls HVAC controls

East mezzanine

CARD012a 11/6/2018

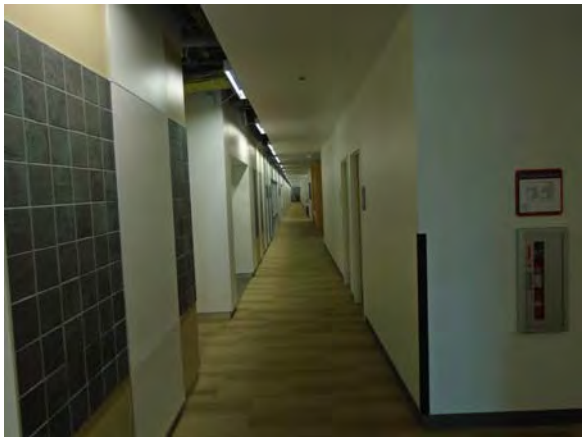
Wheelchair accessible sink

Fourth floor

CARD012e 11/6/2018

1.5 hp Loren Cook exhaust fan EF-1

East mezzanine



CARD013a 11/6/2018
Carpeting, painted and tiled walls, and painted ceiling (some unfinished areas)
Fourth floor corridor

CARD013e 11/6/2018
1/2 hp Loren Cook exhaust fan EF-6
East mezzanine

CARD014a 11/6/2018
Wood laminate flooring, suspended ceiling, and glazed interior wall partitions
Fourth floor

CARD014e 11/6/2018
HVAC ductwork
South mezzanine

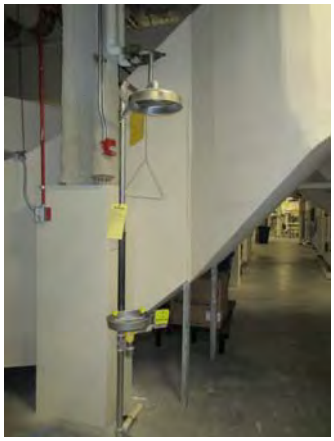
CARD015a 11/6/2018
Wood laminate flooring, suspended ceiling, and glazed interior doors
Fourth floor

CARD015e 11/6/2018
ERU-1 manufactured by Air Zone International
South mezzanine

CARD016a 11/6/2018

Built-in wood lab cabinetry with sink

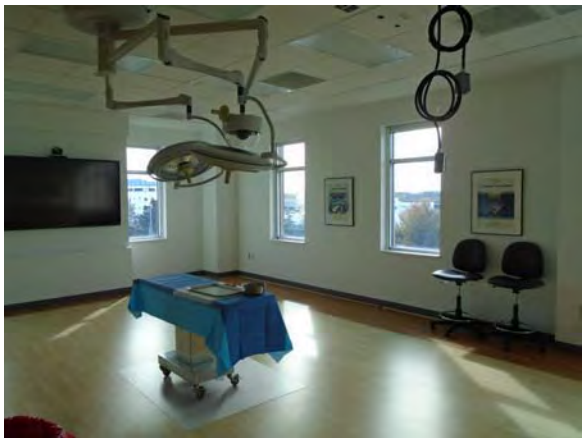
Fourth floor



CARD016e 11/6/2018

Combination safety shower and eyewash station

South mezzanine



CARD017a 11/6/2018

Wood laminate flooring, suspended ceiling, and painted walls

Fourth floor

CARD017e 11/6/2018

Energy recovery wheel inside ERU-1

South mezzanine

CARD018a 11/6/2018

Built-in wood cabinetry

Fourth floor

CARD018e 11/6/2018

Large Buffalo air handling unit AHU-2 with incoming water piping (chilled and hot)

Center mezzanine

CARD019a 11/6/2018

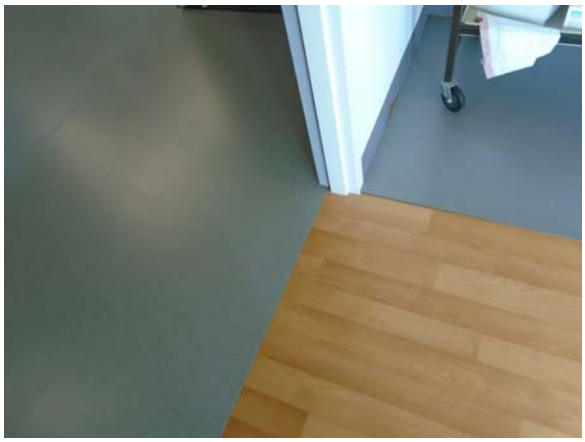
Built-in wood lab cabinetry with sink

Fourth floor

CARD019e 11/6/2018

Return air fan for Buffalo air handling unit AHU-4

Center mezzanine



CARD020a 11/6/2018

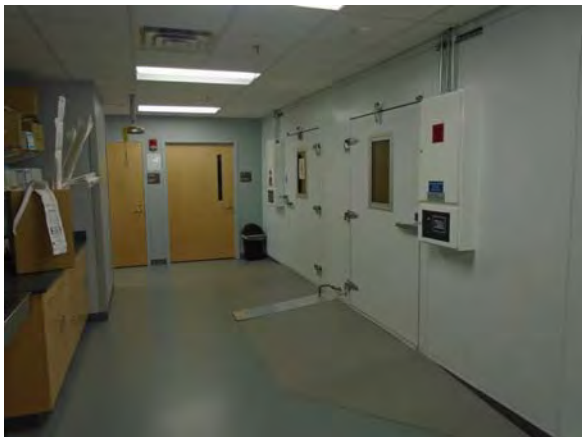
Transition between laminate and sheet vinyl flooring

Fourth floor

CARD020e 11/6/2018

Fan coil unit P-4 suspended from the ceiling

Center mezzanine



CARD021a 11/6/2018

Sheet vinyl flooring and suspended ceiling

Fourth floor

CARD021e 11/6/2018

Large Buffalo air handling unit AHU-4

Center mezzanine

CARD022a 11/6/2018

Seams opening up in sheet flooring

Fourth floor

CARD022e 11/6/2018

Steam piping going into the humidification section of AHU-4

Center mezzanine

CARD023a 11/6/2018

Seams opening up in sheet flooring

Fourth floor

CARD023e 11/6/2018

5 hp exhaust fan EF-1-1

Center mezzanine

CARD024a 11/6/2018

Built-in wood lab cabinetry with sink

Fourth floor

CARD024e 11/6/2018

Pneumatic actuator on EF-1-2

Center mezzanine

CARD025a 11/6/2018
Sheet vinyl flooring, painted walls, suspended grid ceiling, and wood cabinetry
Fourth floor exam room

CARD025e 11/6/2018
Electric actuator on the general exhaust ductwork
Center mezzanine

CARD026a 11/6/2018
Sheet vinyl flooring, painted walls, suspended grid ceiling, and wood cabinetry
Fourth floor exam room

CARD026e 11/6/2018
VAV box and reheat coil inside HVAC ductwork
Center mezzanine

CARD027a 11/6/2018
Suspended grid ceiling
Fourth floor exam room

CARD027e 11/6/2018
Large Buffalo air handling unit AHU-3
West mezzanine

CARD028a 11/6/2018

Seams opening up in sheet flooring

Fourth floor

CARD028e 11/6/2018

Dry chemical fire suppression system for elevator equipment room P105

Northwest mezzanine

CARD029a 11/6/2018

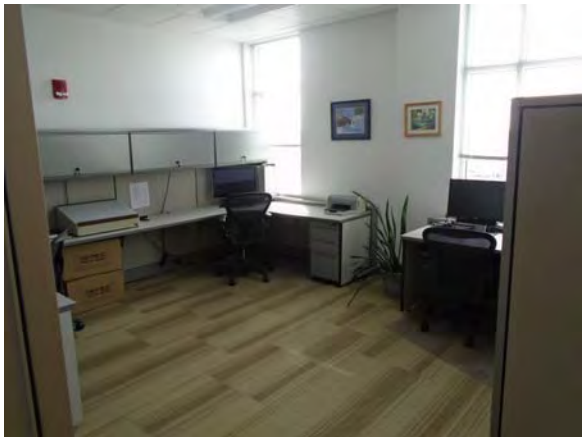
Sheet vinyl flooring, painted walls, and stainless steel sink

Fourth floor

CARD029e 11/6/2018

Fan coil unit S3-P at top of stairwell

Northwest stairwell



CARD030a 11/6/2018

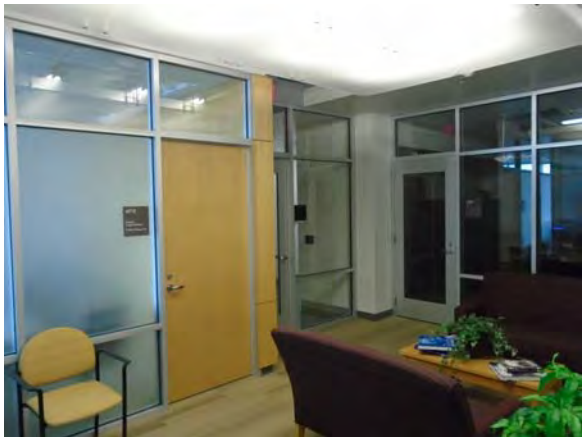
Carpeting, painted walls, and suspended grid ceiling

Fourth floor office

CARD030e 11/6/2018

50 hp Otis hydraulic pump for elevator 4

P105



CARD031a 11/6/2018

Carpeting, glazed interior walls, and glazed illuminated ceiling

Suite 4200

CARD031e 11/6/2018

Pressure reducing valves for the steam piping

North mezzanine

CARD032a 11/6/2018

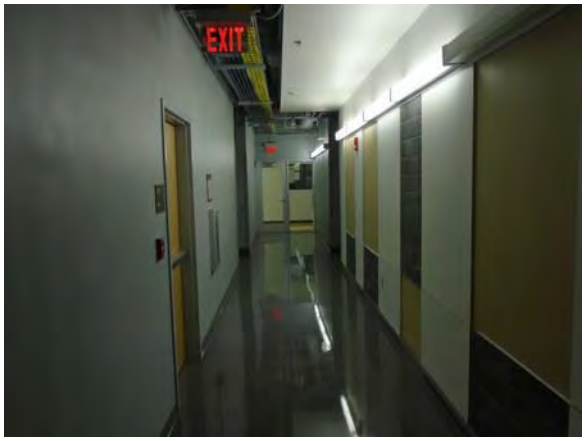
Carpeting, painted walls, and suspended grid ceiling

Fourth floor

CARD032e 11/6/2018

Kidde control panel for dry chemical fire suppression system for elevator mechanical room P104

Northeast mezzanine



CARD033a 11/6/2018

Vinyl tile floor, painted and tiled walls, and painted ceiling (some unfinished areas)

Fourth floor corridor

CARD033e 11/6/2018

50 hp and 40 hp Otis hydraulic pumps for elevators 2 and 3, respectively

P104

CARD034a 11/6/2018

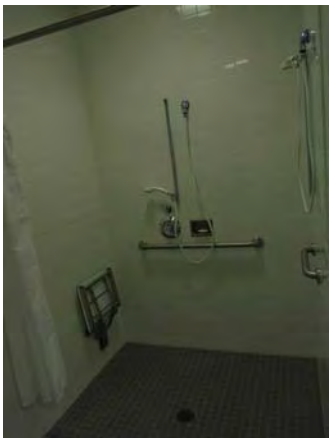
Exposed ceiling areas for utility access

Fourth floor

CARD034e 11/6/2018

Powerex vacuum systems VP1 and VP2

East mezzanine



CARD035a 11/6/2018

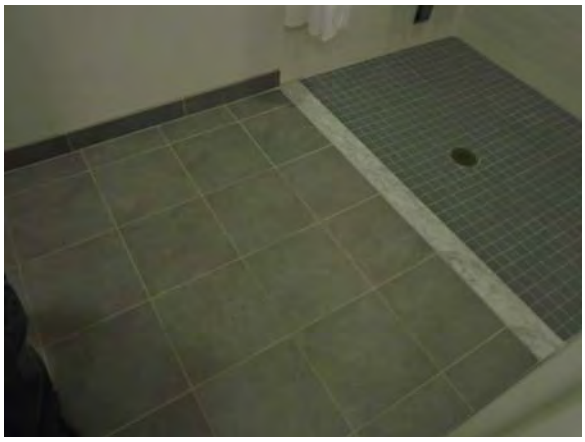
Ceramic tiled accessible shower

Fourth floor staff shower/restroom

CARD035e 11/6/2018

Powerex air compressor systems AC1 and AC2

East mezzanine



CARD036a 11/6/2018

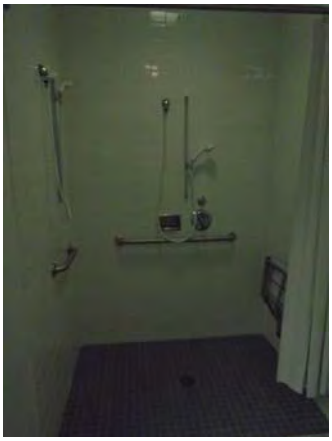
Ceramic tiled accessible shower floor

Fourth floor staff shower/restroom

CARD036e 11/6/2018

Backflow preventer for the RO/DI water system

East mezzanine



CARD037a 11/6/2018
Ceramic tiled accessible shower
Fourth floor staff shower/restroom

CARD037e 11/6/2018
Hydro RO/DI water treatment system
East mezzanine

CARD038a 11/6/2018
Illuminated emergency exit signage
Fourth floor

CARD038e 11/6/2018
Pendent fluorescent light fixture and sprinkler head
East stairwell

CARD039a 11/6/2018
Vinyl floor, painted walls, and metal shelving and cabinetry
Fourth floor lab

CARD039e 11/6/2018
Two centrifugal roof exhausters
North roof

CARD040a 11/6/2018

Sheet vinyl flooring, painted walls, suspended grid ceiling, and wood and metal lab cabinetry

Fourth floor lab

CARD040e 11/6/2018

Fan coil unit cooling the fourth floor electrical room

Room 4004

CARD041a 11/6/2018

Seams opening up in sheet flooring

Fourth floor

CARD041e 11/6/2018

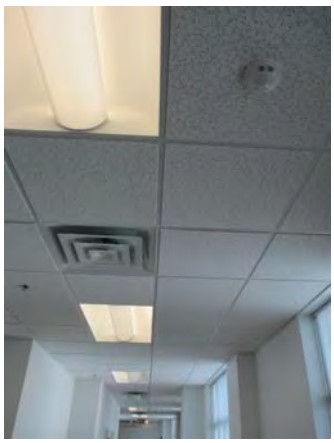
Johnson Controls digital thermostat

Room 4004

CARD042a 11/6/2018

Sheet vinyl flooring, painted walls, suspended grid ceiling, and wood and metal lab cabinetry

Fourth floor



CARD042e 11/6/2018

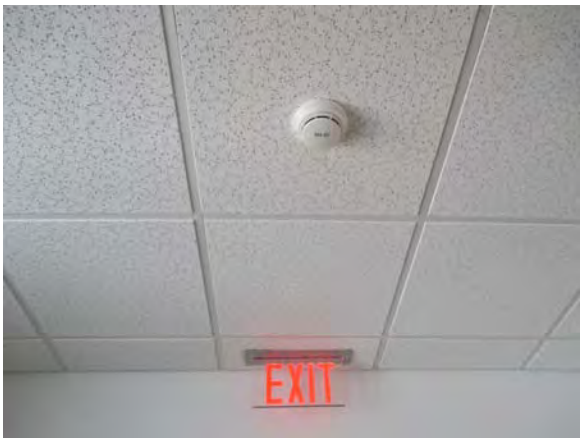
Modern lay-in fluorescent light fixtures

Fourth floor corridor

CARD043a 11/6/2018
Built-in wood lab cabinetry with sink
Fourth floor

CARD043e 11/6/2018
Modern occupancy sensor
Fourth floor corridor

CARD044a 11/6/2018
Built-in wood lab cabinetry with sink
Fourth floor



CARD044e 11/6/2018
Modern smoke/heat detector
Fourth floor corridor

CARD045a 11/6/2018
Built-in wood lab cabinetry with sink
Fourth floor

CARD045e 11/6/2018
Evaporator unit for the Toshiba split DX system
Room 4003

CARD046a 11/6/2018

Vinyl tile floor, painted walls, and painted ceiling (some unfinished areas)

Fourth floor corridor

CARD046e 11/6/2018

2 inch domestic water backflow preventer

Room 4005

CARD047a 11/6/2018

Vinyl tile floor and painted walls

Fourth floor corridor

CARD047e 11/6/2018

Mixing valve for the hot/cold water piping

Room 4005

CARD048a 11/6/2018

Vinyl floor, painted walls, and metal shelving and cabinetry

Fourth floor

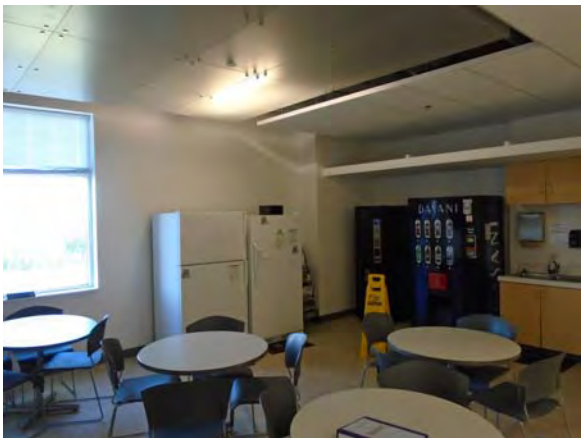
CARD048e 11/6/2018

GFCI protection on electrical outlet near sink

Break room 4201

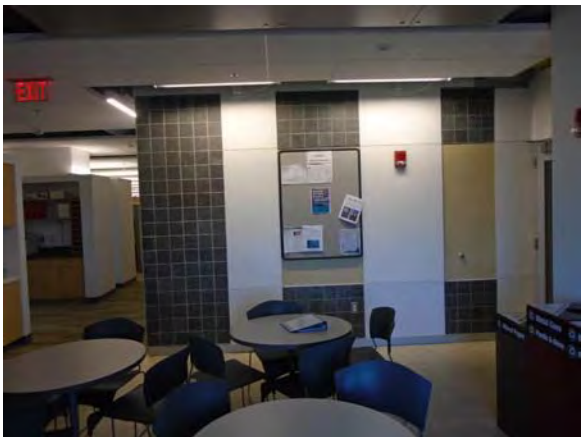
CARD049a 11/6/2018
Ceramic tile floor, painted walls, and suspended ceiling
Fourth floor accessible unisex restroom

CARD049e 11/6/2018
Modern lay-in fluorescent light fixtures
Conference room 4200



CARD050a 11/6/2018
Ceramic tile floor, painted walls, and wood cabinetry
Fourth floor break room

CARD050e 11/6/2018
Emergency eyewash station next to the lab sink
Fourth floor surgery room

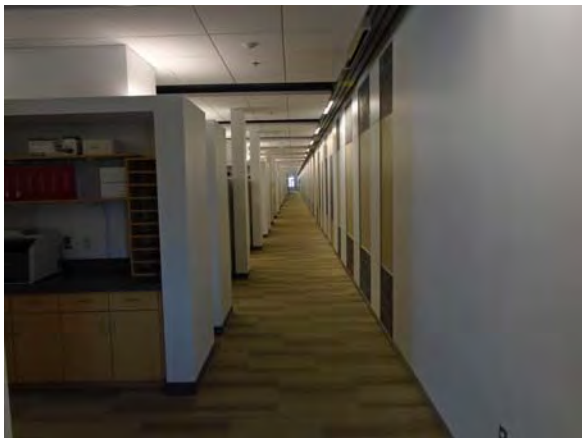


CARD051a 11/6/2018
Ceramic tile floor, painted and tiled walls, and suspended ceiling
Fourth floor break room

CARD051e 11/6/2018
Special light fixture above surgical table
Fourth floor surgery room

CARD052a 11/6/2018
Ceramic tile floor and painted and tiled walls
Fourth floor break room

CARD052e 11/6/2018
Walk-in cold room
Room 4210B



CARD053a 11/6/2018
Carpeting, painted and tiled walls, and suspended ceiling
Fourth floor

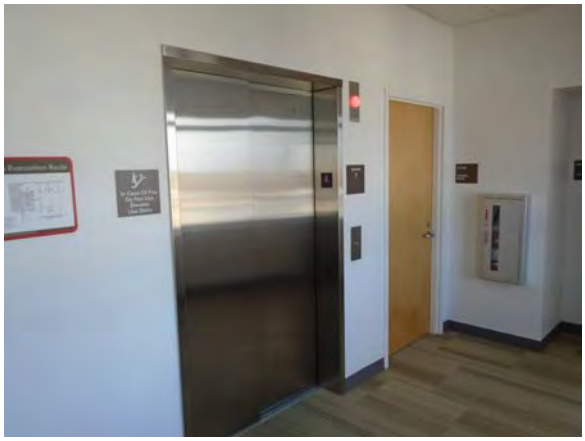
CARD053e 11/6/2018
Three evaporator units inside walk-in cold room
Room 4210B

CARD054a 11/6/2018
Ceramic tile floor, painted walls, and wood cabinetry
Fourth floor

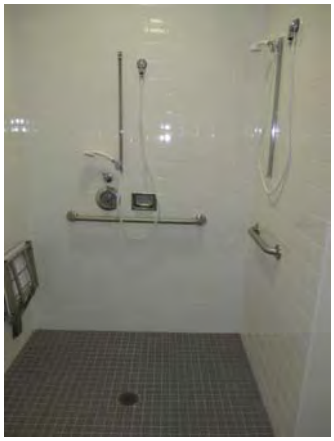
CARD054e 11/6/2018
3-foot sash on fume hood
Surgery room 4211

CARD055a 11/6/2018
Carpeting, glazed interior walls, and suspended grid ceiling
Fourth floor

CARD055e 11/6/2018
Cylinder storage with a medical gas control panel
Room 4212A

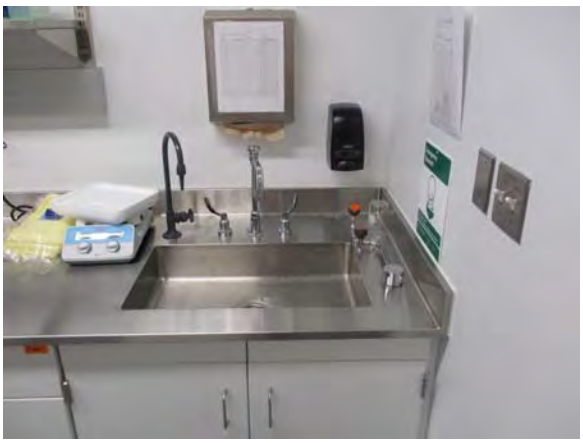


CARD056a 11/6/2018
Carpeting, lever hardware, and accessible signage
Fourth floor



CARD056e 11/6/2018
Handicapped accessible shower
Room 4204A

CARD057a 11/6/2018
Carpeting, glazed interior walls, and suspended grid ceiling
Fourth floor



CARD057e 11/6/2018
Eyewash station next to vivarium sink
Room 4313F

CARD058a 11/6/2018

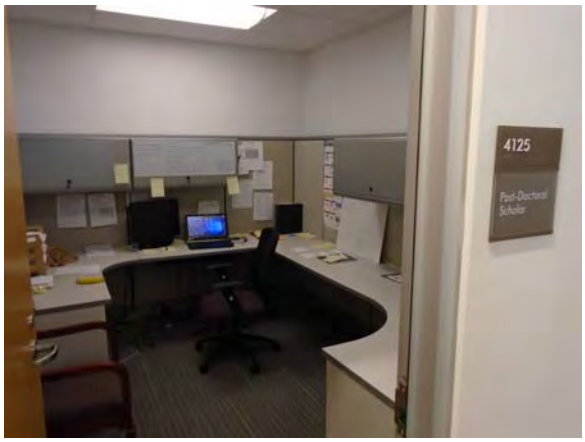
Carpeting, painted and tiled walls, and suspended ceiling

Fourth floor

CARD058e 11/6/2018

Vented bio-safety cabinet

Room 4313F



CARD059a 11/6/2018

Carpeting, painted walls, and suspended grid ceiling

Fourth floor office

CARD059e 11/6/2018

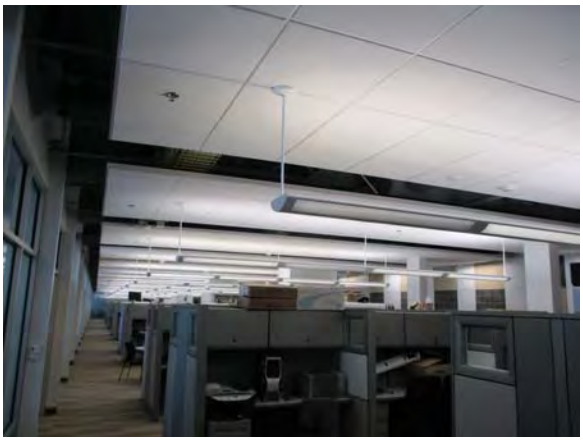
5-foot sash on Labconco fume hood

Room 4309

CARD060a 11/6/2018

Carpeting, glazed interior walls, and suspended grid ceiling

Fourth floor



CARD060e 11/6/2018

Pendent fluorescent light fixture

Fourth floor office area

CARD061a 11/6/2018

Carpeting, glazed interior walls, and suspended grid ceiling

Fourth floor corridor

CARD061e 11/6/2018

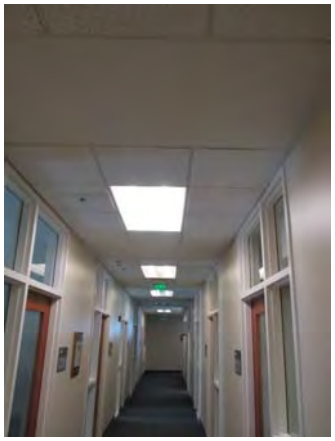
Modern lay-in fluorescent light fixtures

Office 4106

CARD062a 11/6/2018

Glazed interior door with lever hardware and accessible signage

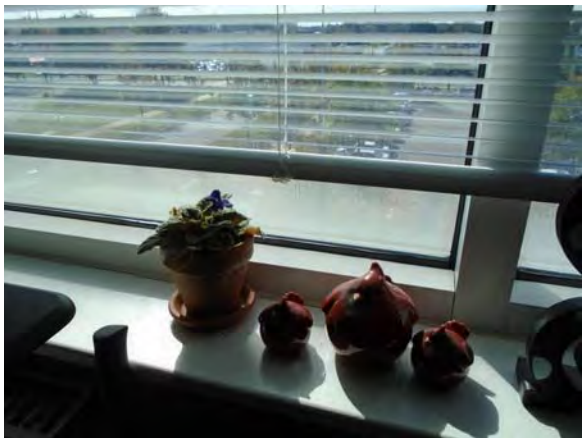
Third floor



CARD062e 11/6/2018

Lay-in fluorescent light fixtures

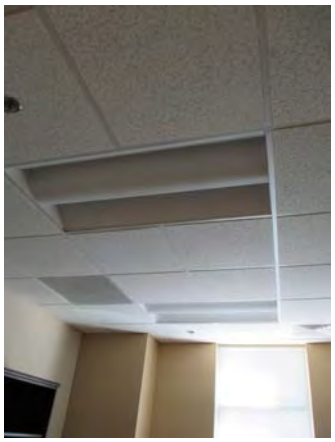
Third floor corridor



CARD063a 11/6/2018

Condensation collecting between glass panes with lost seal

Third floor

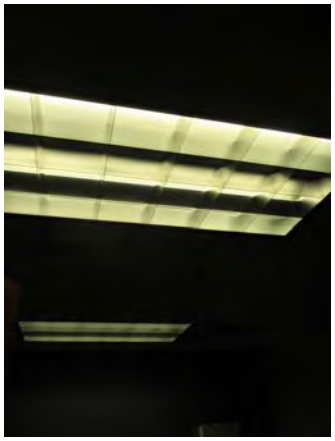


CARD063e 11/6/2018

Lay-in fluorescent light fixtures

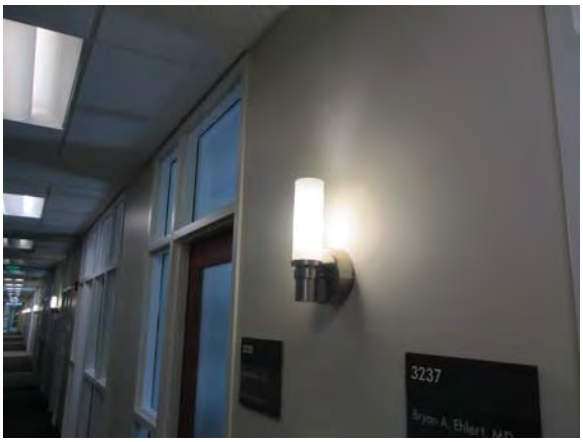
Office 3121

CARD064a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Third floor



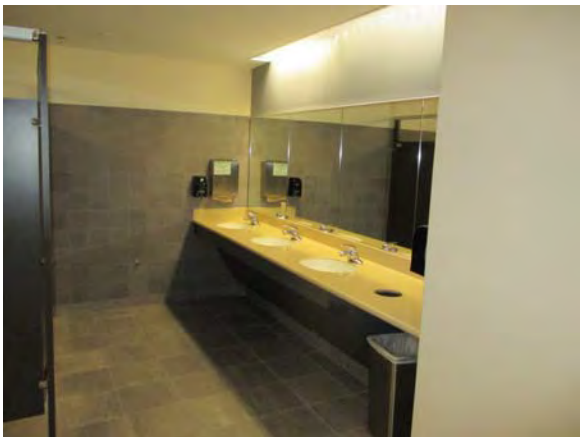
CARD064e 11/6/2018
Lay-in fluorescent light fixtures with parabolic lenses
Room 3112

CARD065a 11/6/2018
Vinyl flooring, built-in cabinetry, and suspended ceiling
Third floor mailroom



CARD065e 11/6/2018
Wall-mounted sconce light fixture
Third floor corridor

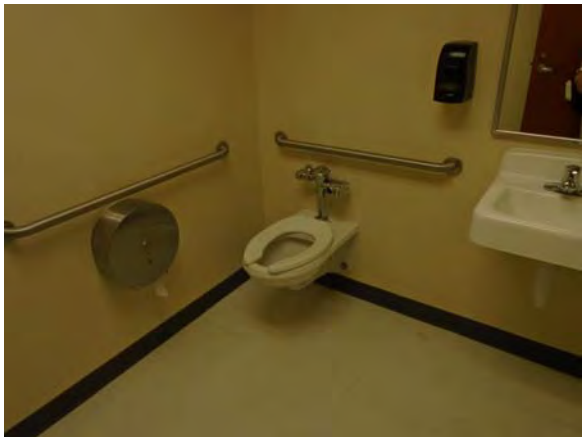
CARD066a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Third floor office



CARD066e 11/6/2018
Lavatories
Men's restroom 3123

CARD067a 11/6/2018
Vinyl flooring, built-in cabintry/sink, and suspended ceiling
Third floor break room

CARD067e 11/6/2018
Typical sink in third floor exam room
Exam room 3226

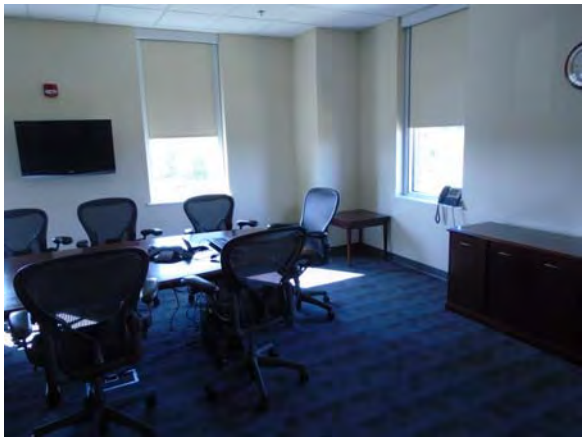


CARD068a 11/6/2018
Vinyl flooring, painted walls, and accessible fixtures
Third floor accessible unisex restroom

CARD068e 11/6/2018
Decorative pendent and wall sconce light fixtures
Entrance lobby for auditorium

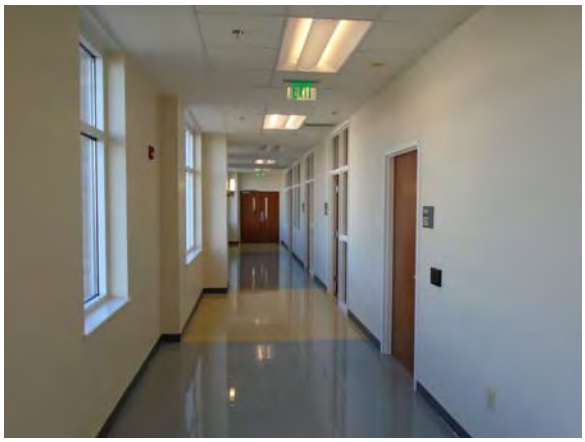
CARD069a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Third floor office

CARD069e 11/6/2018
3,000 amp, 480 V Square D main distribution panel
Room 1118



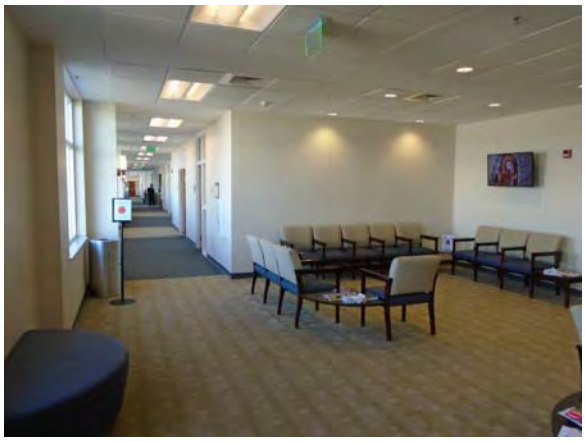
CARD070a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Third floor conference room

CARD070e 11/6/2018
Simple 4100U fire alarm control panel
Vestibule at east entrance



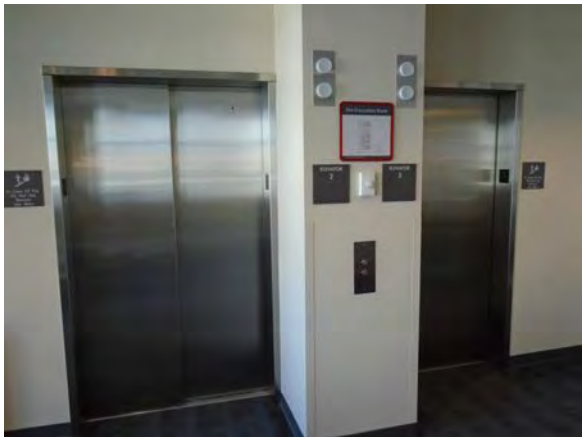
CARD071a 11/6/2018
Vinyl flooring, painted walls, and suspended grid ceiling
Third floor outer corridor

CARD071e 11/6/2018
Unitary emergency light fixture
Auditorium conference room



CARD072a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Third floor waiting area

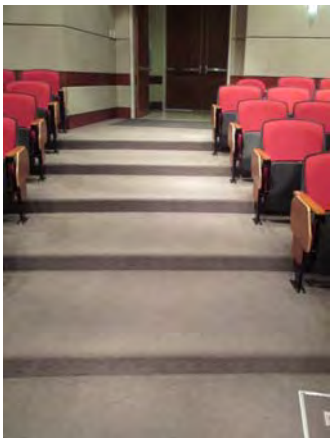
CARD072e 11/6/2018
Lay-in fluorescent light fixtures
Auditorium conference room



CARD073a 11/6/2018
Elevator lobby with accessible call buttons and signage
Third floor

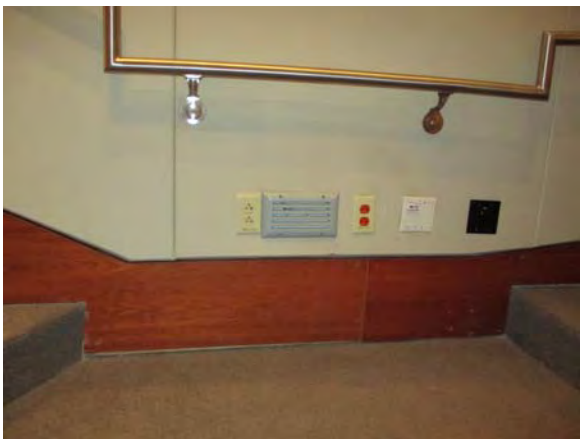
CARD073e 11/6/2018
Recessed can light fixtures
Auditorium

CARD074a 11/6/2018
Vinyl flooring, built-in wood cabintry/sink, and suspended ceiling
Third floor



CARD074e 11/6/2018
Steps lacking illumination
Auditorium

CARD075a 11/6/2018
Accessible sink
Third floor



CARD075e 11/6/2018
Steps with illumination
Auditorium

CARD076a 11/6/2018

Tiled floor and walls

Third floor men's restroom

CARD076e 11/6/2018

Quincy air compressor with two 5 hp motors

Room 1418

CARD077a 11/6/2018

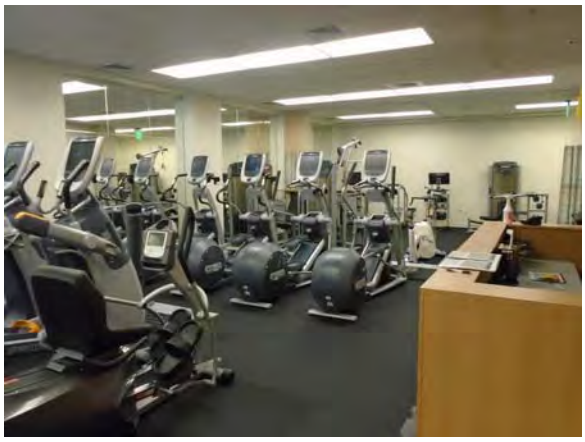
Tiled floor and walls and accessible sinks

Third floor men's restroom

CARD077e 11/6/2018

Two 40 hp chilled water pumps

Room 1418



CARD078a 11/6/2018

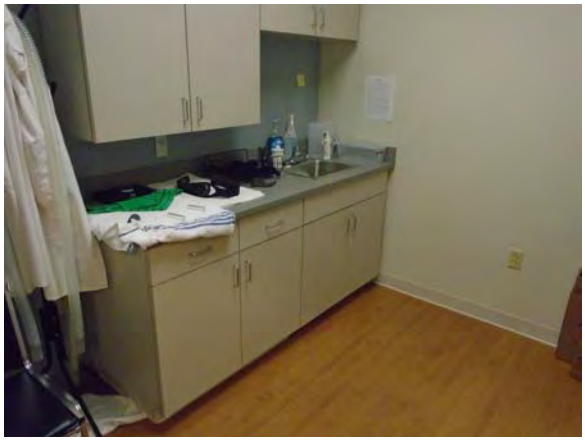
Rubber floor mats and suspended ceiling

Third floor workout room

CARD078e 11/6/2018

ThermaFlo domestic water heat exchanger

Room 1418



CARD079a 11/6/2018
Wood laminate flooring, sink, and cabinetry
Third floor

CARD079e 11/6/2018
Two 3 inch backflow preventers for domestic water
Room 1418

CARD080a 11/6/2018
Tiled floor and walls and accessible sinks
Third floor staff shower/restroom

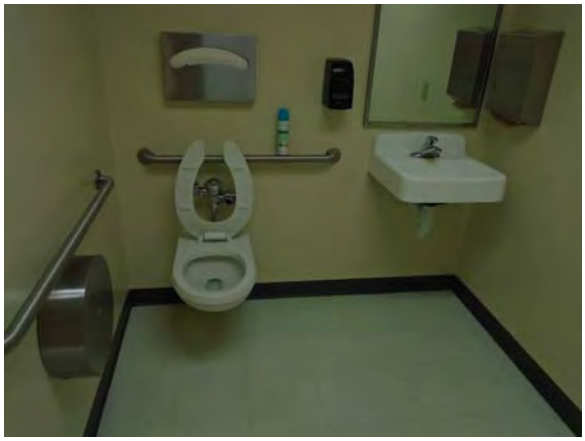
CARD080e 11/6/2018
Pit for chilled water and steam/condensate piping
Room 1418

CARD081a 11/6/2018
Tiled floor and walls and accessible shower
Third floor staff shower/restroom

CARD081e 11/6/2018
Sump pump at bottom of pit
Room 1418

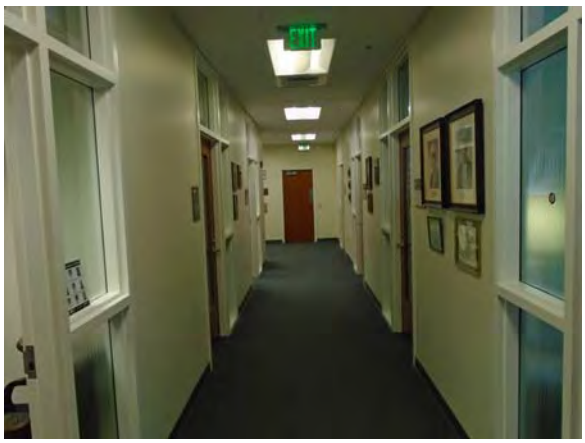
CARD082a 11/6/2018
Vinyl tile floor, painted walls, suspended ceiling, and base and overhead cabinetry with sink
Third floor exam room

CARD082e 11/6/2018
Condensate pump CP-2 in pit
Room 1418



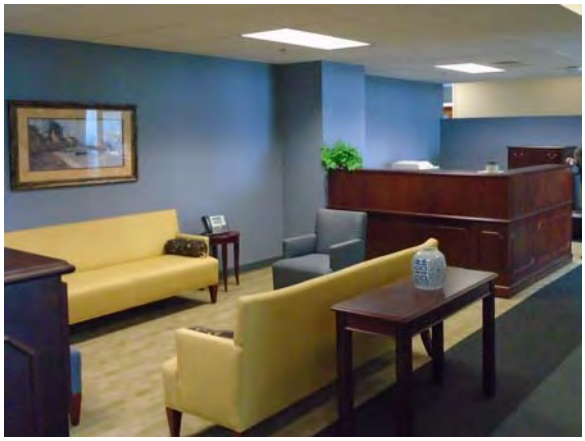
CARD083a 11/6/2018
Vinyl flooring, painted walls, and accessible fixtures
Third floor accessible unisex restroom

CARD083e 11/6/2018
Fire standpipe with tamper switch
Room 1418



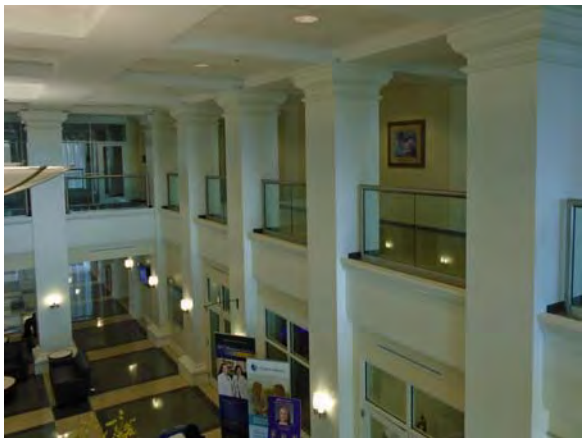
CARD084a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Second floor corridor

CARD084e 11/6/2018
Pressure reducing valves for the steam piping
Room 1418



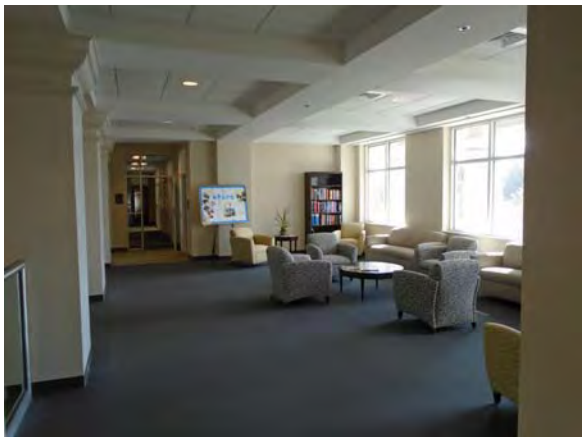
CARD085a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Second floor waiting area

CARD085e 11/6/2018
Condensate pump CP-1
Room 1418



CARD086a 11/6/2018
Balcony overlooking first floor lobby
Second floor

CARD086e 11/6/2018
CV-1 heat exchanger producing heating hot water
Room 1418

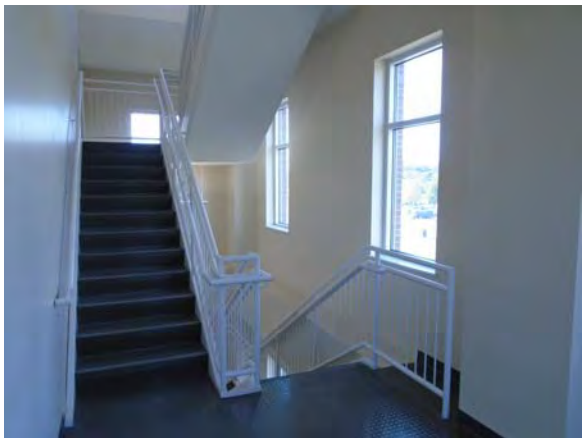


CARD087a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Second floor waiting area

CARD087e 11/6/2018
ABB variable frequency drive for heating hot water P2-1
Room 1418

CARD088a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Second floor corridor

CARD088e 11/6/2018
25 hp heating hot water pump P2-1
Room 1418

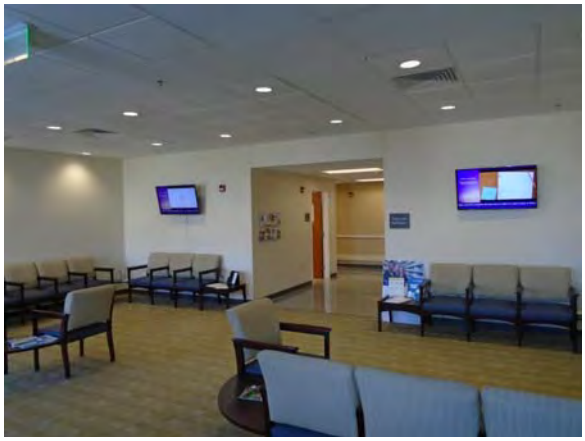


CARD089a 11/6/2018
Compliant handrail and guardrail and rubber treads and landings
Stairwell

CARD089e 11/6/2018
Air handling unit AHU-1
Room 1418

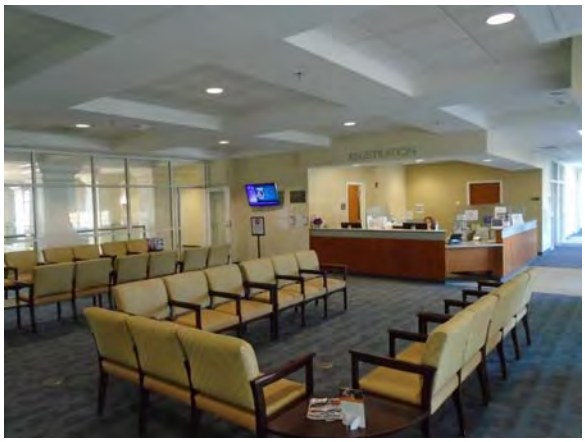
CARD090a 11/6/2018
Built-in wood cabinetry with accessible sink
Second floor

CARD090e 11/6/2018
20 hp return fan for AHU-1
Room 1418



CARD091a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Second floor waiting area

CARD091e 11/6/2018
GE Zenith automatic transfer switch ATS-2
Room 1419E



CARD092a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
Second floor waiting area

CARD092e 11/6/2018
GE Zenith automatic transfer switches ATS-1A and ATS-1B
Room 1419E

CARD093a 11/6/2018
Vinyl tile floor, painted walls, suspended ceiling, and base and overhead cabinetry with sink
Second floor exam room

CARD093e 11/6/2018
Square D generator switchboard
Room 1419E

CARD094a 11/6/2018

Vinyl tile floor, painted walls, suspended ceiling, and base and overhead cabinetry with sink

Second floor exam room

CARD094e 11/6/2018

Wall-mounted CFL half cylinder exterior lights

East exterior

CARD095a 11/6/2018

Single-level water fountain

Second floor

CARD095e 11/6/2018

Natural gas piping entering the building

North exterior

CARD096a 11/6/2018

Vinyl tile floor, painted walls, suspended ceiling, and base and overhead cabinetry

Second floor nurses station

CARD096e 11/6/2018

Close-up of wall-mounted exterior light fixture

West exterior

CARD097a 11/6/2018

Single-level water fountain

Second floor

CARD097e 11/6/2018

Stanchion exterior light

West exterior

CARD098a 11/6/2018

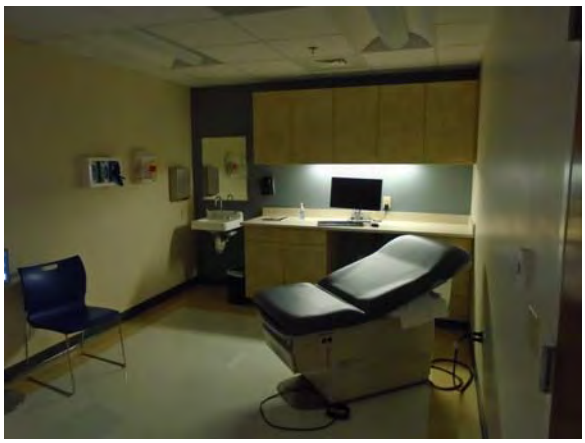
Vinyl tile floor, painted walls, suspended ceiling, and base and overhead cabinetry with sink

Second floor

CARD098e 11/6/2018

Post-mounted exterior light

West exterior



CARD099a 11/6/2018

Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink

Second floor exam room

CARD099e 11/6/2018

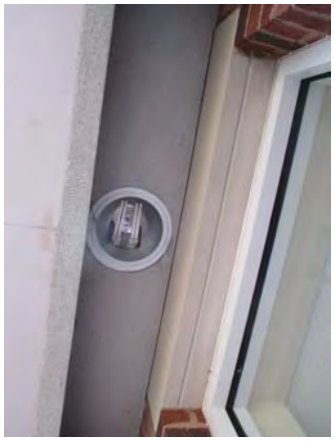
Chiller for CT scan equipment

West exterior

CARD100a 11/6/2018

Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink

Second floor exam room



CARD100e 11/6/2018

Ceiling recessed CFL exterior light

West exterior

CARD101a 11/6/2018

Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink

Second floor exam room

CARD101e 11/6/2018

Ceiling recessed CFL exterior lights

South exterior

CARD102a 11/6/2018

Vinyl tile floor, painted walls, suspended ceiling, and base and overhead cabinetry

Second floor

CARD102e 11/6/2018

2,000 kVA oil-filled transformer TX-19

East exterior

CARD103a 11/6/2018

Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink

Second floor exam room

CARD103e 11/6/2018

Wall-mounted LED exterior light

East exterior

CARD104a 11/6/2018

Terrazzo flooring

Lobby of auditorium wing

CARD104e 11/6/2018

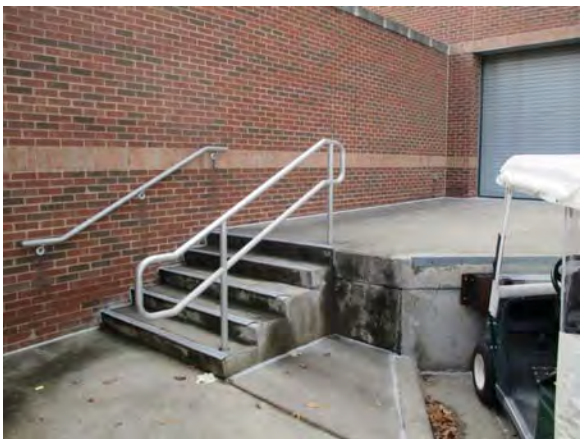
Corroding exterior step light

East exterior

CARD105a 11/6/2018

Original membrane roof

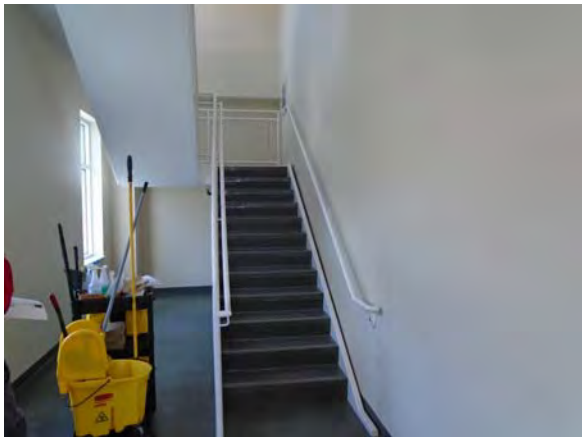
Lower level covered walkway roof



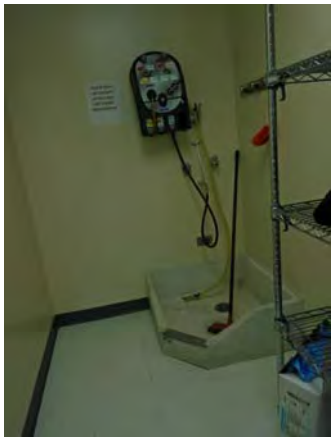
CARD105e 11/6/2018

Steps along loading dock lack illumination

Northeast exterior

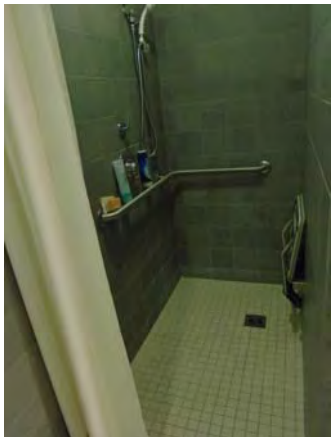


CARD106a 11/6/2018
Compliant handrail and guardrail and rubber treads and landings
Stairwell

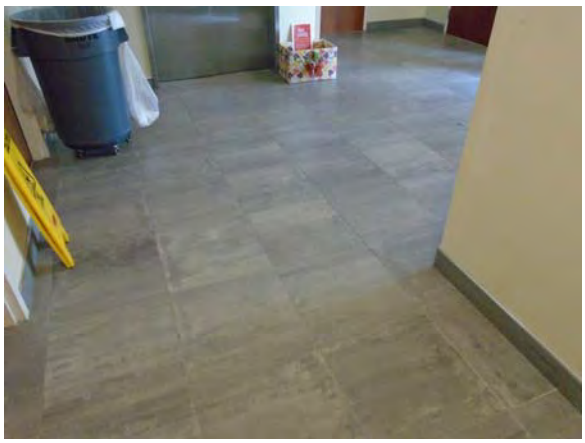


CARD107a 11/6/2018
Vinyl tile floor and custodial floor sink
First floor

CARD108a 11/6/2018
Tiled floor and walls and accessible fixtures
First floor accessible unisex restroom



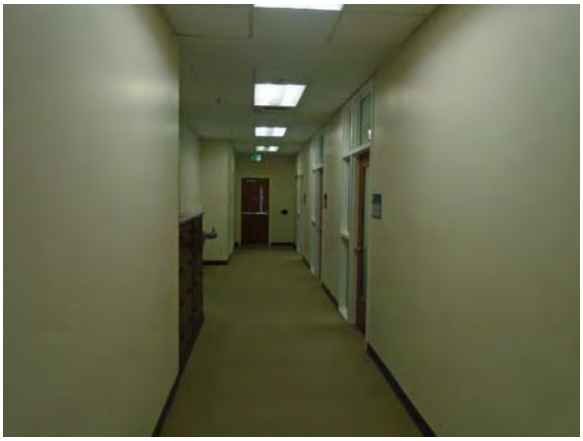
CARD109a 11/6/2018
Tiled floor and walls and accessible shower
First floor staff shower/restroom



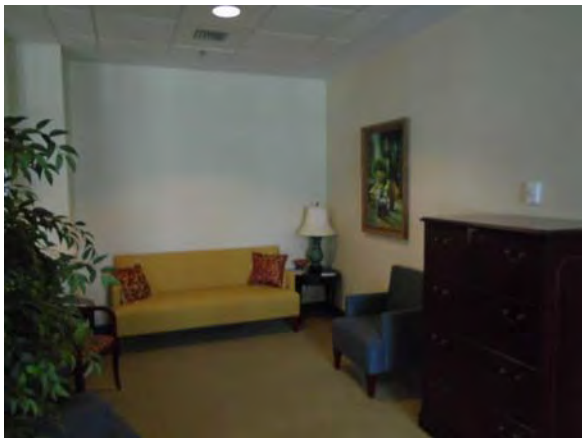
CARD110a 11/6/2018
Tiled floor
First floor elevator lobby

CARD111a 11/6/2018
Vinyl tile floor and accessible sink and cabinetry
First floor

CARD112a 11/6/2018
Base and overhead cabinetry
First floor

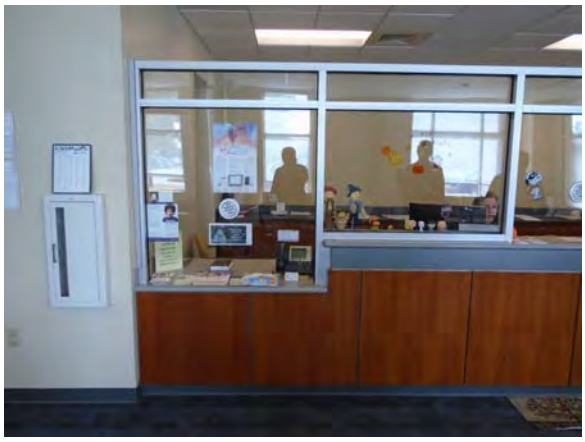


CARD113a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
First floor



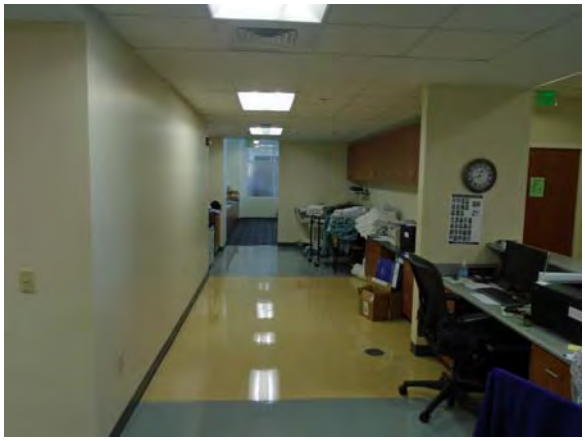
CARD114a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
First floor waiting area

CARD115a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
First floor waiting area



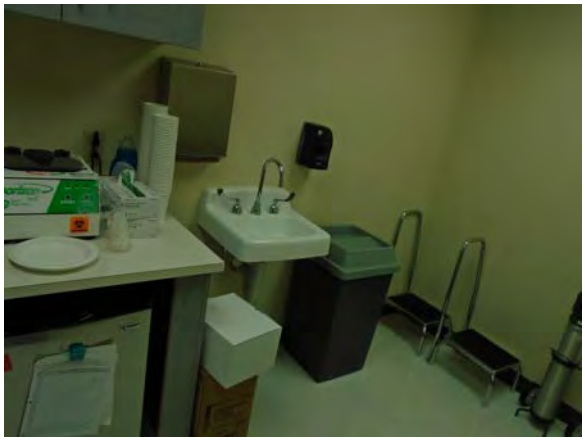
CARD116a 11/6/2018
Wheelchair accessible service counter
First floor

CARD117a 11/6/2018
Vinyl flooring, painted walls, and suspended grid ceiling
First floor



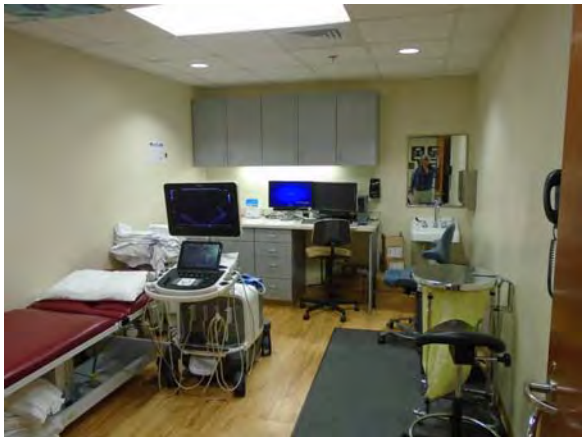
CARD118a 11/6/2018
Vinyl flooring, painted walls, and suspended grid ceiling
First floor

CARD119a 11/6/2018
Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink
First floor exam room



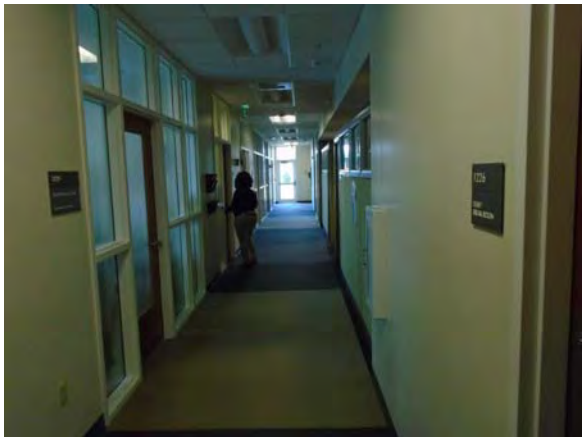
CARD120a 11/6/2018
Wall-mounted sink
First floor exam room

CARD121a 11/6/2018
Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink
First floor exam room

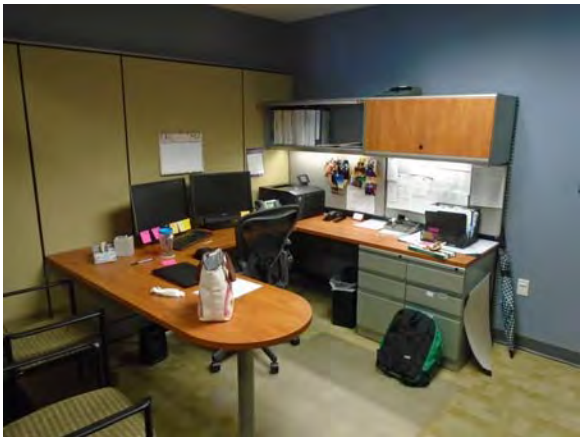


CARD122a 11/6/2018
Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink
First floor exam room

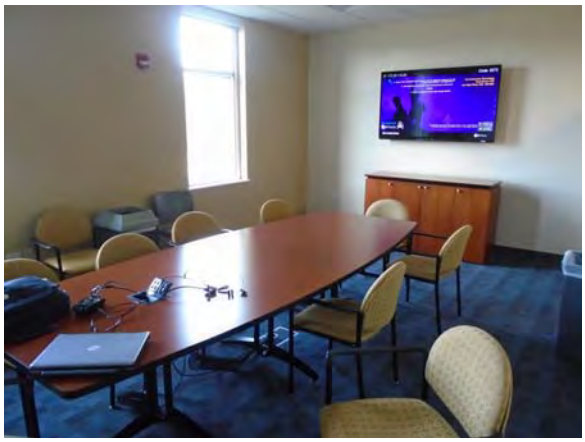
CARD123a 11/6/2018
Single-level water fountain
First floor



CARD124a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
First floor corridor



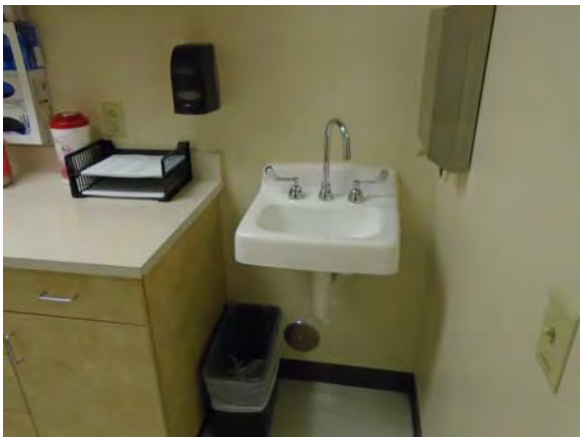
CARD125a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
First floor office



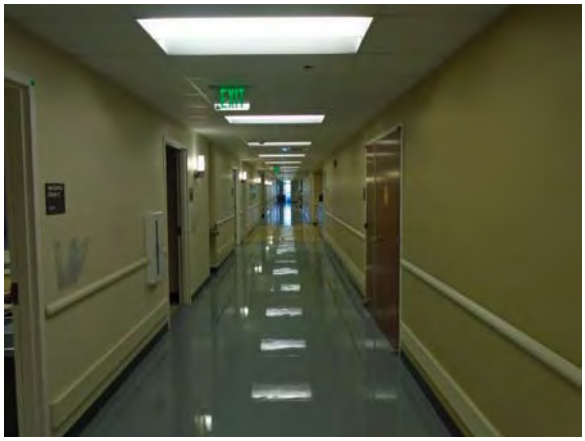
CARD126a 11/6/2018
Carpeting, painted walls, and suspended grid ceiling
First floor conference room

CARD127a 11/6/2018
Vinyl flooring, painted walls, and suspended grid ceiling
First floor

CARD128a 11/6/2018
Vinyl tile floor and accessible sink and cabinetry
First floor



CARD129a 11/6/2018
Wall-mounted sink
First floor



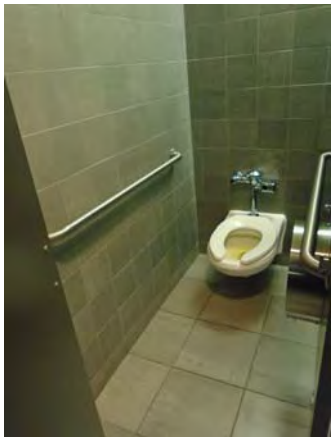
CARD130a 11/6/2018
Vinyl flooring, painted walls, and suspended grid ceiling
First floor

CARD131a 11/6/2018
Single-level water fountain
First floor

CARD132a 11/6/2018
Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink
First floor exam room

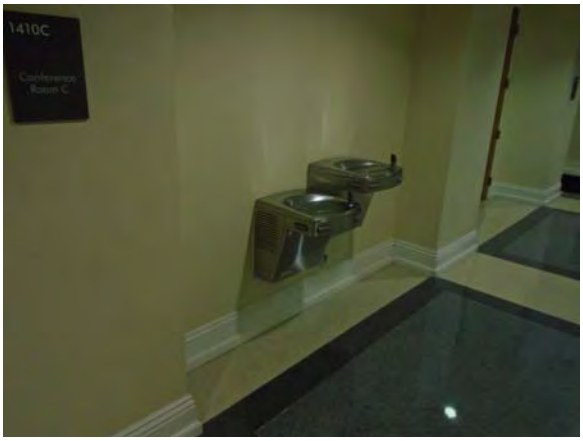
CARD133a 11/6/2018
Vinyl tile floor, painted walls, suspended ceiling, base and overhead cabinetry, and wall-mounted sink
First floor exam room

CARD134a 11/6/2018
Tiled floor and walls and accessible urinals
First floor men's restroom

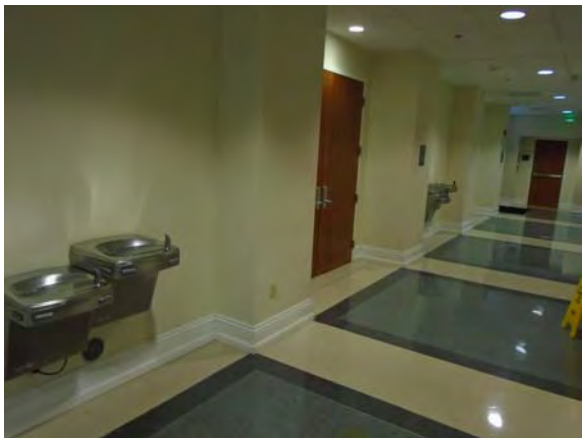


CARD135a 11/6/2018
Tiled floor and walls and accessible water closet
First floor men's restroom

CARD136a 11/6/2018
Tiled floor and walls and accessible lavatories
First floor men's restroom

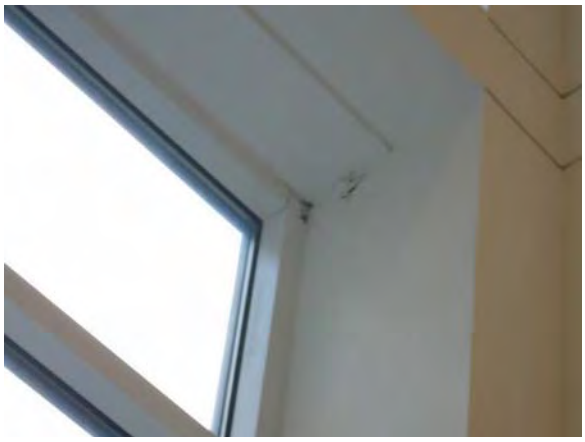


CARD137a 11/6/2018
Dual-level water fountains
Corridor 1154



CARD138a 11/6/2018
Dual-level water fountains
Corridor 1154

CARD139a 11/6/2018
Terrazzo flooring and painted walls
Prefunction space 1408



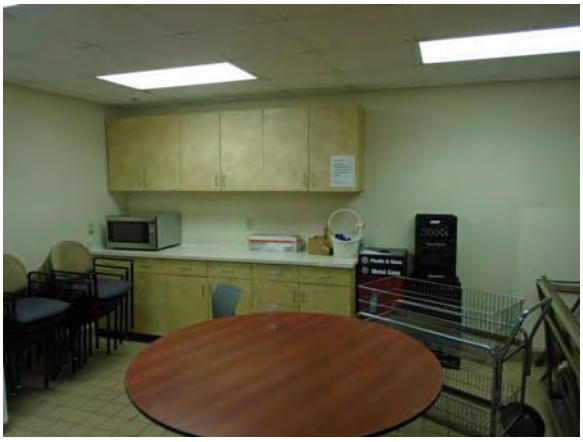
CARD140a 11/6/2018
Water intrusion/damage from infiltration around windows
Prefunction space 1408

CARD141a 11/6/2018
Carpeting, painted walls, suspended grid ceiling, and room dividers
Conference rooms 1410B, C, and D

CARD142a 11/6/2018

Carpeting, painted walls, suspended grid ceiling, and room dividers

Conference room 1410A



CARD143a 11/6/2018

Tiled floor, painted walls, suspended ceiling, and base and overhead cabinetry

Kitchen 1414

CARD144a 11/6/2018

Accessible dual sink

Kitchen 1414

CARD145a 11/6/2018

Dual-level water fountains

Corridor 1421

CARD146a 11/6/2018

Custodial floor sink

First floor

CARD147a 11/6/2018

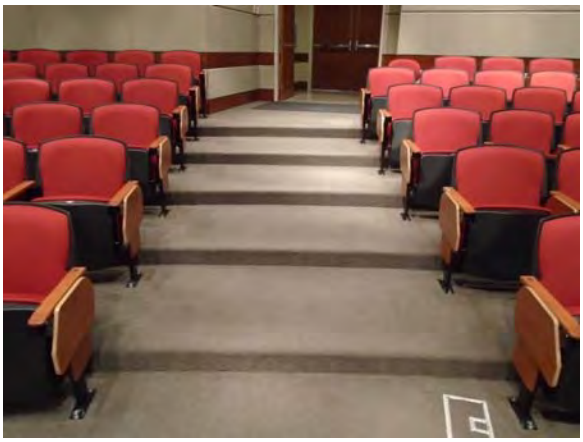
Cloth fixed seating with wood side tray

Auditorium 1430

CARD148a 11/6/2018
Carpeting and wall-mounted sound dampening panels
Auditorium 1430

CARD149a 11/6/2018
Fixed wood desktop and fixed seating
Auditorium 1430

CARD150a 11/6/2018
Fixed wood desktop and fixed seating
Auditorium 1430



CARD151a 11/6/2018
Wide aisle needs center handrail
Auditorium 1430

CARD152a 11/6/2018
Painted ceiling and can lighting
Auditorium 1430

CARD153a 11/6/2018
Overhead roll-up service door
Shipping/receiving 1419

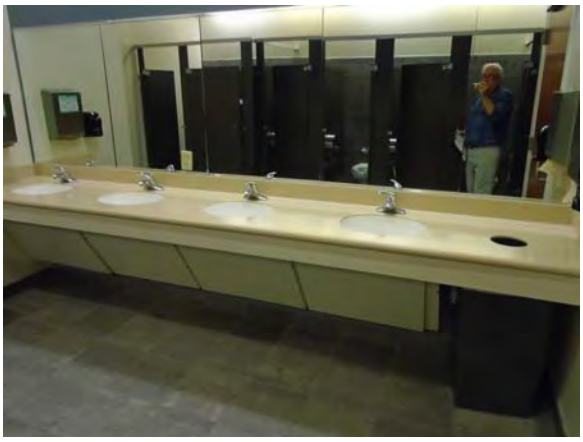
CARD154a 11/6/2018
Terrazzo flooring
Prefunction space 1408

CARD155a 11/6/2018
Terrazzo flooring and painted walls
Prefunction space 1408

CARD156a 11/6/2018
Suspended grid ceiling system
Prefunction space 1408

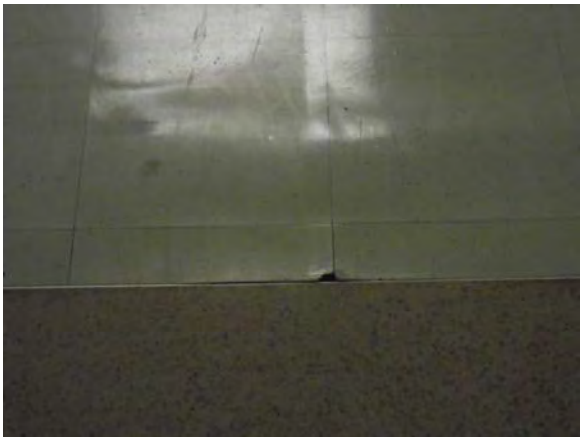
CARD157a 11/6/2018
Tiled floor and walls and accessible water closet stalls
Auditorium restroom

CARD158a 11/6/2018
Tiled floor and walls and accessible water closet
Auditorium restroom



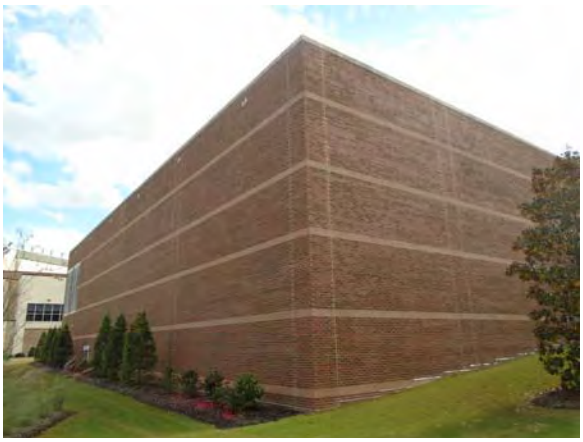
CARD159a 11/6/2018
Tiled floor and accessible lavatories
Auditorium restroom

CARD160a 11/6/2018
Interface between terrazzo and sheet vinyl flooring
Corridor 1420



CARD161a 11/6/2018
Interface between terrazzo and sheet vinyl flooring
Corridor 1420

CARD162a 11/6/2018
Brick masonry exterior
Northeast exterior



CARD163a 11/6/2018
Brick masonry exterior
Northeast corner

CARD164a 11/6/2018
Brick masonry exterior, dual-pane windows, and metal standing seam roof
East exterior

CARD165a 11/6/2018
Concrete exterior panels, dual-pane windows, and doors
Northeast courtyard

CARD166a 11/6/2018

Aluminum and glass exterior doors

Northeast courtyard

CARD167a 11/6/2018

Concrete exterior panels, dual-pane windows, and glass doors

Northeast courtyard

CARD168a 11/6/2018

Brick masonry and concrete panel exterior

North exterior

CARD169a 11/6/2018

Concrete exterior panels, dual-pane windows, and glass doors

Northeast courtyard

CARD170a 11/6/2018

Brick masonry exterior, dual-pane windows, and metal standing seam roof

Northwest corner

CARD171a 11/6/2018

Concrete exterior panels, dual-pane windows, and glass doors

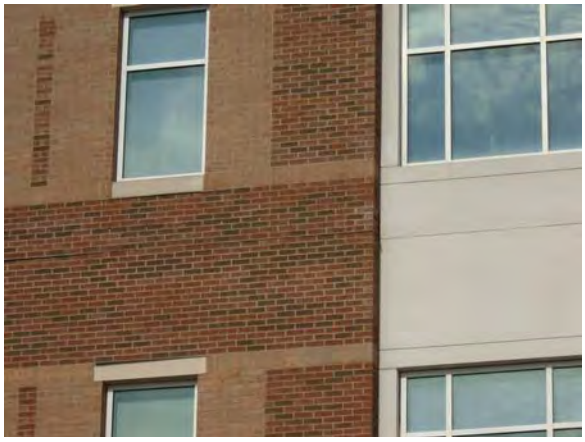
Northwest exterior

CARD172a 11/6/2018
Previous brick masonry repairs
Northwest exterior

CARD173a 11/6/2018
Previous brick masonry repairs
Northwest exterior

CARD174a 11/6/2018
Brick masonry exterior, dual-pane windows, and glass doors
West corner

CARD175a 11/6/2018
Brick masonry exterior, dual-pane windows, and glass doors
Southwest exterior



CARD176a 11/6/2018
Previous brick masonry repairs
Southwest exterior

CARD177a 11/6/2018
Brick masonry and concrete panel exterior
Main southwest entrance

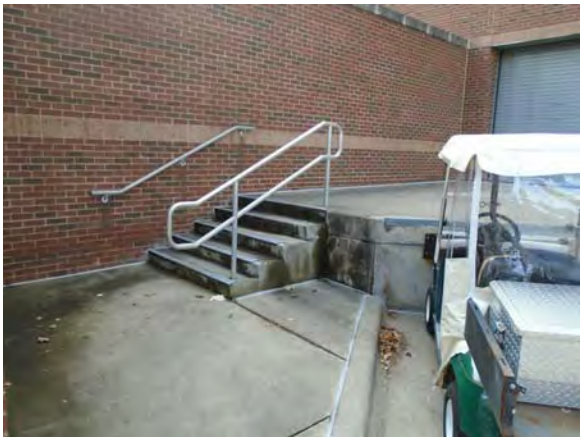
CARD178a 11/6/2018
Aluminum and glass exterior doors
Main southwest entrance

CARD179a 11/6/2018
Brick masonry exterior, dual-pane windows, and metal standing seam roof
Southeast exterior

CARD180a 11/6/2018
Concrete windowsills with superficial cracking
Southeast exterior

CARD181a 11/6/2018
Aluminum and glass exterior doors
Southeast exterior

CARD182a 11/6/2018
Brick masonry exterior
Southeast exterior



CARD183a 11/6/2018
Handrails on exterior steps to loading dock
Southeast exterior

CARD184a 11/6/2018

Broken nosing on exterior steps

Southeast exterior

CARD185a 11/6/2018

Brick masonry exterior, dual-pane windows, and metal standing seam roof

Southeast exterior

CARD186a 11/6/2018

Brick masonry exterior, overhead service door, and metal personnel doors

Southeast exterior

CARD187a 11/6/2018

Brick masonry exterior

Southeast corner